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# **Some Facts Concerning Competition Between Apples and Other Fruits at Retail, New York City**

## **PRELIMINARY REPORT**

by  
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SOME FACTS CONCERNING COMPETITION  
BETWEEN APPLES AND OTHER FRUITS AT RETAIL  
NEW YORK CITY

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#### INTRODUCTION

Despite the fact that the trend of apple production has been downward during the past 20 years, prices received by growers have declined drastically and the apple industry seems to be in distress in practically all the important apple producing States. In view of this situation and at the urgent request of farmers' cooperative associations and other farmers' organizations, a study of retail

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Note. - This study was made possible by the wholehearted support and assistance of chain store and independent retailers in New York City. To the 7 corporate chain grocery systems and the 1,790 independent retailers who so graciously cooperated, the authors express grateful appreciation.

The authors are also indebted to E. W. Cake, who had charge of the gathering of data from independent retailers and assisted with its analysis.

Appreciation is also due I. S. Taubkin, of the New York Times, who made available an analysis of census data compiled for and at the expense of the New York Times, the New York Herald Tribune, and the New York News, which was used as the basis for selecting income areas; to Mrs. S. M. Robison, of the Welfare Council of New York City; and to Deputy Commissioner Carl Kimball, of the New York City Department of Public Markets, for valuable assistance.

outlets for apples and other fruits was undertaken during the summer of 1938 by the Cooperative Research and Service Division of the Farm Credit Administration, and the New York State College of Agriculture, at Cornell University.

The general purpose of this project was to study competition between apples and other fruits and to obtain information on some of the factors that affect retailer and consumer demand for apples. It was felt that an accurate knowledge of consumer performance might be of material assistance in developing practical means to improve marketing methods and practices. It seemed reasonable too that growers, shippers, and others should gain by doing all they can to help retailers improve their sales volume.

In the New York metropolitan area, most of the fresh and processed fruits used in homes are obtained at some kind of neighborhood retail food outlet. It is assumed that customers make their wants known to retailers by selecting from the stock offered for sale those items for which they are able and willing to pay. The consequent close relationship between consumers and retailers should make it possible to measure consumer performance to some degree by studying retail outlets and what they sell.

Analysis of the data assembled has reached the point where a preliminary report can be made. Conclusions, however, must be omitted from this report because they would necessarily be incomplete. The usual summary is also omitted because the many points involved are discussed here as briefly as seems practical. The study is being continued for another season (1939-40) and more thorough analyses will be available on the basis of the more complete information.

#### HOW FACTS WERE OBTAINED

According to the 1935 Census of Business <sup>1/</sup>, there were 52,161 food stores in New York City. Only 8,111 of these were listed as "fruit stores and vegetable markets," but obviously stores of many other types also dealt to some degree in such commodities. During the survey, all enumerators encountered many independent food outlets which did not handle fruits and vegetables. For example, a recent unpublished store count showed that only 37 percent of the independent retail grocery stores handled fruits and vegetables. On the other hand, almost 84 percent of the chain groceries in the same areas carried fruits and vegetables in stock. Data were obtained from only those independent retailers who handled some fruits and vegetables.

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<sup>1/</sup> U. S. Department of Commerce, Bureau of the Census. Census of Business: 1935. Retail Distribution, v. 2, p. 153.

This preliminary report is based on data obtained from the headquarters records of some of the large chain store systems, and from the managers of 1,790 independent retail outlets in the Boroughs of Brooklyn, Manhattan, the Bronx, and Queens. The 7 chain store systems included in the study operated over 3,300 retail outlets during the period covered, but detailed data were obtained for only a small number of such outlets. Independent retailers surveyed may be classified as follows: 1,121 fruit and vegetable stands; 479 retail groceries; 154 pushcart or wagon hucksters; 22 delicatessens; and 14 meat markets. The distribution of these independent outlets among boroughs was approximately in proportion to the number of families living in each of the boroughs. They were also as nearly as possible in proportion to the important income classes in the city.

#### RELATIVE IMPORTANCE OF RETAIL OUTLETS

A limited comparison of sales by retail outlets of each type is possible, but care should be exercised in interpreting these data. It should be borne in mind that only those independent retailers were surveyed who actually handled fruits and vegetables. On the other hand, the data concerning the chain store units covered all outlets, whether they handled fruits or vegetables or not. Consequently these facts probably underestimate the volume of fruit and vegetable sales per store by an estimated 16 percent.

With these reservations in mind, it seems reasonable to say that fruit and vegetable stands were outstandingly the most important type of retail outlet for fruits and vegetables. Fruit and vegetable stores sold on the average almost \$19,400 worth of fruits and vegetables annually per store; independent retail grocers ranked next with almost \$8,900; meat markets next with about \$7,100; chain grocery stores next with about \$6,100 (which, as indicated above, may have been 16 to 20 percent understated); and pushcart or wagon hucksters were about equal in importance to delicatessen stores (table 1).

Averages <sup>2/</sup> of the quantities of important individual fresh fruits, canned fruits, and canned juices sold during the 1937-38 season likewise permit of some limited comparison of sales by each type of retail outlet. On the per outlet basis, fruit and vegetable stores ranked first in sales of bananas, oranges, grapefruit, and pears (table 2). Pushcart or wagon hucksters ranked first in sales of apples with almost 54,000 pounds per year, or an average of nearly 1,200 bushels per outlet. Fruit and vegetable stands were second in importance, averaging almost 51,000 pounds of apples (nearly 1,150 bushels) per store; followed by meat markets with 19,000 pounds;

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<sup>2/</sup> Except for chain grocers, the data relate only to outlets that handle fruits and vegetables.

Table 1. - Relation of Dollar Sales of Fruits and Vegetables to Gross Sales of All Commodities by 2,415 Chain Stores and 1,516 Independent Retail Outlets <sup>1/</sup>, New York City, 1937-38 <sup>2/</sup>

Type of retail outlet	Retail outlets reporting	Gross dollar sales per outlet		Fruit and vegetable sales as a percentage of total sales
		All commodities	Fruits and vegetables	
	Number	Dollars	Dollars	Percent
Chain grocery	2,415	44,459	6,135	14
Fruit and vegetable store	976	19,806	19,396	98
Independent grocery	370	30,961	8,877	29
Pushcart or wagon huckster	142	4,718	4,650	99
Delicatessen	15	20,427	4,560	22
Meat market	13	19,869	7,108	36

<sup>1/</sup> Although 1,790 independent retail outlets were included in this survey, data concerning annual sales (in dollars) were made available for only 1,516.

<sup>2/</sup> Data for independent retailers are only for those which actually handled fruits and vegetables. For units in leading chain store systems, data include all stores whether they handled fruits or vegetables or not. The gross sales are accurate, but fruits and vegetables, in relation to total sales, are understated by 16 to 20 percent because not all stores handle fruits and vegetables.

Source: Data obtained from chain and independent retailers.

Table 2. - Relative Quantities of Selected Fresh Fruits, Canned Fruits, and Juices Sold Annually Per Store by 3,009 Retailers of Various Types, New York City, 1937-38

Selected commodity	Fruit and vegetable stores	(Thousand pounds)				
		Average quantity sold annually per outlet 1/			Pushcart or wagon	Delicatessen stores
		Grocery stores	Independent	Chain hucksters		
<u>Fresh fruit:</u>						
Apples	50.8	13.8	7.0	53.9	8.2	19.0
Bananas	19.4	7.8	6.0	3.3	8.5	9.6
Oranges	59.4	21.2	26.2	22.4	16.5	22.4
Grapefruit	28.9	10.1	10.7	9.4	8.7	3.6
Pears	15.5	3.7	4.2	15.2	2.0	4.7
Total freshfruit	174.0	55.6	54.1	104.2	43.9	64.3
<u>Canned fruit:</u>						
Applesauce	2/	1.2	2.6	-	.9	.4
Apples 4/	2/	2/	.1	-	.1	2/
Peaches	2/	1.9	2.9	-	1.6	.3
Pears	2/	1.0	1.4	-	1.0	.2
Apricots	2/	.6	.5	-	.6	.3
Cherries	2/	.2	.3	-	.2	2/
Cranberries	2/	.1	.6	-	2/	2/
Grapefruit	.1	.6	.4	-	.7	.1
Total canned fruit	.1	5.6	8.8	3/	5.1	1.3
<u>Canned juice:</u>						
Grapefruit	2/	1.9	2.5	-	2.8	.2
Tomato	2/	3.1	5.3	-	4.3	.6
Orange	2/	.4	.2	-	.8	-
Pineapple	2/	2.4	3.4	-	3.5	.2
Prune	2/	.4	.4	-	.4	-
Total canned juice	.1	3.2	11.8	3/	11.8	1.0
Number of stores	1,121	479	1,219	154	22	14

1/ Except for chain grocers, the data relate only to outlets that handled fruits and vegetables.

2/ Less than 100 pounds.

3/ Canned fruit and juice not handled.

4/ Apples include both whole and baked.

Source: Data obtained from chain and independent retailers.

"independent grocers" with about 14,000 pounds; and delicatessens, fifth, with about 8,000 pounds. The "chain grocers" included in this analysis averaged sales of 7,000 pounds of apples per store per year.

Chain grocers were clearly dominant in the sales of 8 canned fruits with almost 9,000 pounds per store. Independent grocers ranked second with about 5,600 pounds, and delicatessens third with 5,100 pounds per store. Some of the meat markets and fruit and vegetable stores handled relatively small quantities of canned fruits, but none of the pushcart or wagon hucksters handled such commodities.

Chain grocers and delicatessens sold approximately the same volume of 5 canned juices per store - almost 12,000 pounds. The delicatessens sold greater quantities of grapefruit and orange juice than did the chain store units, but the latter sold more tomato juice and about the same volume of pineapple and prune juices. The independent grocers averaged 8,200 pounds of the 5 canned juices, but sales by fruit and vegetable stands were relatively insignificant, and pushcart or wagon hucksters did not handle any canned juices.

#### RECEIPTS AND SALES OF CERTAIN FRUITS

Unloads of 7 important selected fresh fruits which arrived at New York City by rail, boat, or motortruck, during the 1937-38 season, compared on a carload basis, indicate that apples constituted only 14 percent, while oranges made up almost 29 percent of the total. These unload figures are not considered to reflect accurately the proportions sold to New York City families through retail outlets, because it is known that oranges, grapefruit, bananas, and western grapes are reshipped from New York City to a much greater extent than apples. Also the data concerning receipts of eastern apples via motortruck are acknowledged to be incomplete.

The tonnage of seven selected fruits sold by independent and chain retailers may be taken as a relatively more accurate measure of competition, since they represent actual sales reported by a large number of retail outlets under widely varying conditions of family income.

On the basis of sales reported by 1,790 independent retailers, oranges led in tonnage of fruit sold amounting to about 30 percent of the total while apples made up 26.6 percent (table 3). Bananas accounted for more than a fifth of the carlot unloads but were less than 10 percent of the total sales of the 7 fruits by these independent retailers. In a similar manner, western grapes made up 12.2 percent of the unloads but less than 4 percent of the sales by independent retailers. On the contrary, eastern pears were less than one-half of 1 percent of the unloads but 1½ percent of sales through independent stores.

Table 3. - Carlot Unloads of Seven Selected Fruits, and Tonnage Sold by Independent and Chain Retail Outlets, New York City, 1937-38

Commodity	Tonnage handled by -					
	Carlot unloads 1/		1,790 independent retailers		1,244 units in 2 chain store systems	
	Total for season	Percentage of total for 7 fruits	Total	Percentage of total for 7 fruits	Total	Percentage of total for 7 fruits
	Carloads	Percent	Tons	Percent	Tons	Percent
<b>Apples:</b>						
Eastern	7,091	10.9	24,418	18.0	2,423	8.4
Western	2,303	3.5	11,730	8.6	1,185	4.1
Total apples	9,394	14.2	36,148	26.6	3,608	12.5
Oranges	19,142	28.8	40,426	29.8	13,763	48.1
Grapefruit	6,614	10.0	19,490	14.4	5,197	18.1
Bananas	13,835	20.8	13,178	9.7	3,184	11.1
<b>Pears:</b>						
Eastern	268	.4	2,028	1.5	17	.1
Western	3,086	4.7	8,755	6.4	322	1.1
Total pears	3,354	5.1	10,783	7.9	339	1.2
Peaches	5,400	8.1	8,725	6.4	1,675	5.8
<b>Grapes:</b>						
Eastern	543	.8	2,068	1.5	346	1.2
California	8,065	12.2	5,022	3.7	565	2.0
Total grapes	8,608	13.0	7,090	5.2	911	3.2
Total 7 fruits	66,347	100.0	135,845	100.0	28,682	100.0

1/ Rail, boat, or motortruck unloads converted to carlot equivalents.

Source: Data obtained from chain and independent retailers.

Tonnage merchandised by two chain store organizations, operating 1,244 retail units, also shows little relationship between unloads of the 7 fruits and sales by such units. For example, while oranges were less than 29 percent of the carlot unloads, they made up almost half (48 percent) of the chain store tonnage. Similarly, grapefruit accounted for 18 percent of chain store sales but only 10 percent of unloads. These data indicate the apparent tendency for chain stores to handle highly standardized and relatively nonperishable fruits, and relatively small quantities of such highly perishable commodities as grapes and pears.

Since the methods of operation of chain food stores, both as to buying and selling, as well as the relative importance of the commodities handled, are unlike those of independent retailers in important respects, the chain and independent store data will be analyzed separately.

#### ANALYSIS OF SALES OF INDEPENDENT RETAIL OUTLETS

##### Comparative Tonnages Sold Per Outlet

On the basis of total tonnage of 7 selected fruits sold annually per retail outlet, fruit and vegetable stands ranked first among independent retail outlets, with sales averaging about 197,000 pounds per year (table 4). Pushcart or wagon hucksters were second, with almost 125,000 pounds; meat markets third, with about 72,000; grocery stores fourth, with over 63,000; and delicatessens last, with 48,000 pounds.

With regard to apples, pushcart or wagon hucksters sold more tonnage per outlet than any other type of independent retailer (about 54,000 pounds annually), although fruit and vegetable stands were a close second with about 51,000 pounds. Independent groceries sold less than 14,000 pounds of fresh apples per store per year (table 5). While appreciable quantities of apples were sold in the form of applesauce by these grocers and delicatessen operators, sales were about 85 percent fresh apples.

Sales of fruits other than apples show some interesting variations among retail outlets. For example, fruit and vegetable stands sold about 9,000 pounds more of oranges per store than of apples, but pushcart or wagon hucksters disposed of 31,000 pounds more of apples than of oranges. Delicatessens sold almost identical tonnages of apples, grapefruit, and bananas, but twice that quantity of oranges (table 4). Fruit and vegetable stands and pushcart or wagon hucksters handled almost identical quantities of pears and peaches; but retail grocers, delicatessens, and meat markets handled relatively small volumes of such fruits. There seemed to be a tendency for the fruit and vegetable stands and the pushcart or wagon hucksters to handle relatively large proportions of the less standardized and more highly perishable fruits.

Table 4. — Relative Importance of Various Types of Independent Retail Outlets for Sales of Selected Fruits, as Reported by 1,790 Independent Retailers, New York City, 1937-38

Type of retail outlet	Number of outlets	Average quantity of each fruit sold annually per outlet							Total fruits
		Apples	Oranges	Grape-fruit	Bananas	Pears	Peaches	Grapes	
(In thousands of pounds)									
Fruit and vegetable stand	1,121	50.8	59.4	28.9	19.4	15.5	12.1	10.5	196.6
Retail grocery (independent)	479	13.8	21.2	10.1	7.8	3.7	3.9	2.7	63.2
Pushcart or wagon huckster	154	53.9	22.4	9.4	3.3	15.2	12.2	6.5	122.9
Delicatessen	22	8.2	16.5	8.7	8.5	2.0	2.8	1.3	48.0
Meat market	14	19.0	22.4	8.6	9.6	4.7	4.2	3.3	71.8
Total or average	1,790	40.4	45.2	21.3	14.7	12.1	9.7	7.9	151.8

Source: Data obtained from independent retailers.

Table 5. - Relative Volume of Apples (in Various Forms) Sold by Each Type of Retail Outlet, 1,790 Independent Retailers, New York City, 1937-38

Form in which apples were sold	Fruit and vegetable stands	Independent grocery stores	Pushcart or wagon hucksters	Delicatessens	Meat markets	Total
	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds
Fresh apples	50,801	13,768	53,951	8,177	19,013	40,389
Applesauce 1/	29	1,882	-	1,390	713	545
Whole canned apples 1/	-	40	-	122	-	12
Total	50,830	15,690	53,951	9,689	19,726	40,946

Percentage of total sold in indicated form

	Percent	Percent	Percent	Percent	Percent	Percent
Fresh apples	100.0	87.7	100.0	84.4	96.4	98.7
Applesauce 1/	2/	12.0	-	14.3	3.6	1.3
Whole canned apples 1/	-	.3	-	1.3	-	2/
Total	100.0	100.0	100.0	100.0	100.0	100.0

1/ Assuming 1 case to equal 1 bushel of fresh apples.

2/ Less than one-tenth of 1 percent.

Source: Data obtained from independent retailers.

### Gross Dollar Sales and Tonnage Per Outlet

As might be expected, the annual volume of business varied greatly among these independent retailers. Of 1,516 stores, 250 (or 16 percent) had annual sales of all commodities averaging only \$3,028 per year; while 133 stores (or 9 percent) reported sales averaging \$83,259. The largest group (28 percent) sold from \$10,000 to \$20,000 worth per year, and averaged \$14,603.

As will be noted from the relative volume of sales of selected fruits per \$100 of gross sales, the lines of commodities and methods of operation of the various types of retail outlets are so unlike as to make it seem desirable to analyze these types separately (table 6).

Of 370 retail grocery stores, about 10½ percent reported gross sales of all commodities averaging \$3,500; about 17 percent reported sales which averaged over \$89,000 per year. In those groceries where gross sales averaged \$15,000 or less annually, fruit and vegetable sales maintained a proportion of about one-third of the total sales of all commodities. As annual sales per store rose above the \$15,000 level, fruit and vegetable sales also increased but at a slower rate (table 7).

In these 370 retail grocery stores, sales of apples rose as volume of all commodities increased, but not in direct proportion either to sales of all commodities or to sales of fruits and vegetables in general. The same situation was true with regard to other important fruits (table 8).

Of 7 selected canned fruits, the volume handled by the smallest retail grocers averaged 16 cases per year, in comparison with 397 cases in stores with gross sales of \$50,000 or more per year (table 9).

Similarly sales of 5 canned juices showed remarkable differences; the smaller stores averaged 35 cases, while the largest stores sold 668 cases per store per year.

Sales by fruit and vegetable stands were confined almost entirely to fruits and vegetables. Almost 12 percent of the 976 stands from which gross sales data were obtained had less than \$5,000 gross sales per year; and 7 percent reported sales of more than \$50,000, averaging over \$76,000 of fruits and vegetables per year (table 10). As in the case of the independent grocery stores, apple sales per stand followed an upward trend as total sales increased, but the apple trend was not directly proportionate to total sales. In the largest stores, oranges led in total volume sold per store, with about 210,000 pounds per year; apples were second, with about 143,000 pounds; grapefruit third, with 115,000 pounds; and bananas and pears were equal, with about 53,000 pounds each (table 11).

Table 6. - Relative Volume of Each Selected Fruit Sold for Each \$100 of Gross Retail Sales of All Commodities, as Reported by Independent Retailers, New York City, 1937-38

Selected fruit	Volume sold per \$100 of gross sales 1/		
	976 fruit and vegetable stands	370 independent grocers	142 pushcart or wagon hucksters
	Pounds	Pounds	Pounds
<u>Apples:</u>			
Eastern	169	28	909
Western	77	19	294
Total apples	246	47	1,203
<u>Oranges</u>			
	295	73	501
<u>Grapefruit</u>			
	147	36	213
<u>Bananas</u>			
	95	27	63
<u>Pears:</u>			
Eastern	13	2	124
Western	65	11	218
Total pears	78	13	342
<u>Peaches</u>			
	60	13	276
<u>Grapes:</u>			
Eastern	16	2	37
Western	37	6	106
Total grapes	55	8	143
Total 7 fruits	974	217	2,741

1/ Based on gross sales amounting to \$19,330,300 for stands, \$11,455,600 for independent grocers, and \$669,900 for hucksters.

Source: Data obtained from independent retailers.

Table 7. - Relation of Apple Sales to Sales of Fruits and Vegetables and to Sales of All Commodities, as Reported by 370 Independent Retail Grocers, New York City, 1937-38

Annual gross sales of all commodities per outlet	Stores reporting	Annual sales per outlet		Quantity of apples sold		
		All commodities	Fruits and vegetables	Eastern	Western	Total
	Number	Dollars	Dollars	1,000 pounds		
Less than \$5,000	39	3,500	1,272	3.0	2.6	5.6
\$5,000 - \$9,999	57	7,437	2,691	4.0	3.1	7.1
\$10,000 - \$19,999	81	14,541	5,742	7.1	4.8	11.9
\$20,000 - \$29,999	64	24,712	8,053	8.8	5.4	14.2
\$30,000 - \$49,999	67	33,893	9,804	10.4	7.0	17.4
\$50,000 - or more	62	89,194	23,294	17.1	10.9	28.0

Index numbers of sales 1/

Annual gross sales of all commodities per outlet	All commodities	Fruits and vegetables	Apples		
			Eastern	Western	Total
Less than \$5,000	100	100	100	100	100
\$5,000 - \$9,999	212	212	133	119	127
\$10,000 - \$19,999	415	451	237	185	212
\$20,000 - \$29,999	706	633	293	208	254
\$30,000 - \$49,999	1,111	771	347	269	311
\$50,000 - or more	2,548	1,831	570	419	500

1/ Low-volume group = 100.

Source: Data obtained from independent retailers.

Table 8. - Relation of Annual Gross Sales of All Commodities to Sales of Selected Fresh Fruits, as Reported by 370 Independent Retail Grocers, New York City, 1937-38

Annual gross sales of all commodities	Average sales of all commodities		Average quantity sold annually per outlet						Total 1,000 pounds
	Dollars	1,000 pounds	Grape- fruit		Bananas		Pears	Peaches	
			Oranges	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	
Less than \$5,000	3,500	6.4	2.2	3.7	1.5	1.2	.9	.9	21.5
\$5,000 - \$9,999	7,437	8.1	5.1	5.9	1.5	2.8	.9	.9	29.4
\$10,000 - \$19,999	14,541	12.6	6.1	6.9	2.7	3.0	1.7	1.7	44.9
\$20,000 - \$29,999	24,712	23.7	10.1	7.5	3.8	3.9	2.0	2.0	65.2
\$30,000 - \$49,999	38,893	28.5	14.3	9.4	4.5	4.3	3.3	3.3	81.7
\$50,000 - or more	89,194	51.6	27.7	15.3	9.2	8.6	6.1	6.1	146.5

Index numbers of quantity sold per outlet 2/

Less than \$5,000	100	100	100	100	100	100	100	100	100
\$5,000 - \$9,999	212	127	141	159	100	233	100	100	137
\$10,000 - \$19,999	415	197	277	186	180	250	189	209	209
\$20,000 - \$29,999	706	370	459	203	253	325	222	303	303
\$30,000 - \$49,999	1,111	445	650	254	300	358	367	380	380
\$50,000 - or more	2,548	805	1,259	414	613	717	676	681	681

1/ Includes apples, as well as fruits listed.  
2/ Low-volume group = 100.

Source: Data obtained from independent retailers.

Table 9. - Relation of Gross Sales of All Commodities to Sales of Canned Fruits and Juices, as Reported by 370 Independent Retail Grocers, New York City, 1937-38

Annual gross sales of all commodities per retail store	Canned fruit sold annually per outlet										Index numbers		
	Cases	Cases	Cases	Cases	Cases	Cases	Cases	Cases	Cases	Total	Cases	Average sales, all fruits commodities	
Less than \$5,000	6	4	2	3	1	2	1	2	16	100	100	100	
\$ 5,000 - \$9,999	21	16	8	11	2	1	1	1	60	375	212	212	
\$10,000 - \$19,999	38	33	17	17	8	2	2	2	117	731	415	415	
\$20,000 - \$29,999	42	48	24	26	15	8	4	4	167	1,044	706	706	
\$30,000 - \$49,999	55	48	28	31	19	12	5	5	196	1,225	1,111	1,111	
\$50,000 - or more	102	99	41	72	42	25	16	16	397	2,481	2,543	2,543	

  

Annual gross sales of all commodities per retail store	Canned juice sold annually per outlet										Index numbers		
	Cases	Cases	Cases	Cases	Cases	Cases	Cases	Cases	Cases	Total	Cases	of total 5 juices	
Less than \$5,000	12	11	8	2	2	2	2	2	35	100	100	100	
\$ 5,000 - \$9,999	39	33	24	8	5	5	109	109	311	311	311	311	
\$10,000 - \$19,999	52	53	49	11	11	11	175	175	503	503	503	503	
\$20,000 - \$29,999	75	83	77	22	15	15	272	272	777	777	777	777	
\$30,000 - \$49,999	123	120	114	29	22	22	408	408	1,166	1,166	1,166	1,166	
\$50,000 - or more	230	194	172	29	22	22	666	666	1,909	1,909	1,909	1,909	

1/ Includes whole canned apples.

2/ Less than one case.

Source: Data obtained from independent retailers.

Table 10. - Relation of Apple Sales to Gross Sales of Fruits and Vegetables and of all Commodities, as Reported by 976 Independent Fruit and Vegetable Stands, New York City, 1937-38

Annual gross sales of all commodities per fruit stand	Stands reporting	Quantity of apples sold			Total
		Eastern	Western	1,000 pounds	
Less than \$5,000	116	6.4	4.3	10.7	
\$ 5,000 - \$9,999	222	15.7	7.1	22.9	
\$10,000 - \$19,999	329	29.3	11.4	40.7	
\$20,000 - \$29,999	147	40.3	18.2	59.0	
\$30,000 - \$49,999	93	63.2	32.9	101.0	
\$50,000 - or more	69	93.0	49.8	142.7	

Index numbers of sales

Annual gross sales of all commodities per fruit stand	All commodities	Fruits and vegetables	Apples		
			Eastern	Western	Total
Less than \$5,000	100	100	100	100	100
\$ 5,000 - \$9,999	243	246	245	165	214
\$10,000 - \$19,999	475	480	458	265	380
\$20,000 - \$29,999	786	795	638	423	551
\$30,000 - \$49,999	1,225	1,261	1,066	765	944
\$50,000 - or more	2,537	2,570	1,453	1,158	1,334

Source: Data obtained from independent retailers.

Table 11. — Relation of Sales of Selected Fruits to Gross Sales of All Commodities, as Reported by 976 Independent Fruit and Vegetable Stands, New York City, 1937-38

Annual gross sales of all commodities		Quantity sold annually per outlet						Total for 7 fruits 1/	
Range	Average	Oranges	Grape- fruit	Bananas	Pears	Peaches	Grapes	1,000 pounds	1,000 pounds
	Dollars	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds
Less than	\$5,000	3,086	10.2	5.1	5.8	3.5	2.7	2.3	40.3
\$5,000 -	\$9,999	7,486	20.4	9.0	9.4	6.0	5.1	3.5	76.3
\$10,000 -	\$19,999	14,666	45.2	20.6	16.1	12.1	9.3	7.4	151.2
\$20,000 -	\$29,999	24,269	70.9	32.7	22.4	17.8	13.3	12.1	228.2
\$30,000 -	\$49,999	37,810	124.3	68.0	36.0	34.0	22.8	23.8	410.1
\$50,000 - or more		78,280	209.5	115.3	53.0	53.5	43.4	39.8	657.3

Index numbers of sales

Annual gross sales of all commodities		Grape- fruit						Total for 7 fruits 1/	
Range	Commodities	Oranges	Bananas	Pears	Peaches	Grapes	1,000 pounds	1,000 pounds	
Less than	\$5,000	100	100	100	100	100	100	100	100
\$5,000 -	\$9,999	243	200	176	162	171	189	152	189
\$10,000 -	\$19,999	475	443	404	278	346	344	322	375
\$20,000 -	\$29,999	786	695	641	386	509	493	526	566
\$30,000 -	\$49,999	1,225	1,219	1,333	621	271	844	1,035	1,018
\$50,000 - or more		2,537	2,054	2,261	914	1,529	1,607	1,730	1,631

1/ Includes apples, as well as fruits listed.

Source: Data obtained from independent retailers.

Two-thirds of the pushcart or wagon hucksters sold less than \$5,000 worth of fruits and vegetables annually (the average in this class was \$2,785 per year); and only 8 percent had gross sales exceeding \$10,000 per year (the average was \$13,291). Apple sales were generally in close proportion to gross sales by pushcart or wagon hucksters (table 12).

#### Family Income and Fresh Fruit Sales

Family characteristics and a variety of other considerations help to determine the particular items that individual housewives buy. Some considerations that influence purchases include cost, appearance, condition, dietary needs, and taste. Family characteristics that influence purchases may include family income, food budget schemes, occupations, dietary habits, dietary customs, and ages of family members. Income is commonly assumed to be of greatest importance. The other family characteristics are probably associated with income levels, particularly in the low and medium income groups.

Although it is generally assumed that family income is the most important factor determining consumption of fruits, this assumption may or may not be true. Sales promotion activities by retailers also have an effect upon consumer purchases. Such efforts vary greatly in extent and effectiveness. They may be classified under two forms: (1) those efforts primarily designed to attract customers to the store, and (2) those designed to cause purchases of particular items. The methods used include displays, strategic location of stores, special sales, newspaper advertisements, circulars, handbills, delivery service, personal solicitation, credit extension, and sales talks by clerks. A retailer's choice of media, methods, and items tends to be influenced by their cost, by his opinion as to the reactions of customers, by the commodities handled, and by the type of outlet.

The data obtained in this survey of independent retail outlets indicate that there is a relationship between the average family income (as measured by average rentals paid <sup>3/</sup>) in the area in which the retail outlet is located and sales of apples and other fruits per retail outlet. Available data were not sufficient to indicate whether sales of these fruits per family are likewise dependent upon and roughly proportional to family income, or whether other factors are more important.

Income seems to have been more of a factor in some types of retail outlets than in others. Among independent retail grocery stores, sales of all fruits per store rose rapidly as incomes increased,

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<sup>3/</sup> In this study, it was assumed that family incomes were in proportion to and could be measured by average rentals paid in each census tract, as indicated by the U. S. Census of 1930.

Table 12. - Relation of Sales of All Commodities to Sales of Selected Fruits, as Reported by 142 Pushcart or Wagon Hucksters, New York City, 1937-38

Annual gross sales of all commodities per huckster	Hucksters reporting	Average quantity sold annually per huckster										Grapes	
		Apples		Grapefruit		Bananas		Peaches		Eastern			
		Eastern	Western	Oranges	fruit	Eastern	Western	1,000	1,000	1,000	1,000		
Number	Number	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	
Less than \$5,000	93	26.3	6.5	11.5	5.1	3.7	4.2	5.2	6.5	.1	2.3		
\$5,000 - \$9,999	38	65.3	15.2	38.1	14.2	2.0	9.2	16.3	24.3	1.8	7.3		
\$10,000 - \$19,999	11	105.1	71.7	76.1	37.4	-	8.6	32.2	26.7	15.0	15.7		

Index numbers of quantity sold annually per huckster 1/

Annual gross sales of all commodities per huckster	Hucksters reporting	Average quantity sold annually per huckster										Grapes	
		Apples		Grapefruit		Bananas		Peaches		Eastern			
		Eastern	Western	Oranges	fruit	Eastern	Western	1,000	1,000	1,000	1,000		
Number	Number	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	
Less than \$5,000	93	100	100	100	100	54	54	219	313	382	100	100	
\$5,000 - \$9,999	38	248	234	331	278	-	205	619	411	411	1,800	261	
\$10,000 - \$19,999	11	400	1,103	662	733	-	-	-	-	-	15,000	561	

1/ Low-volume group = 100.

Source: Data obtained from independent retailers.

and for each of the 7 leading fruits, sales per store were greatest in the highest income group (tables 13 and 14). These data seem to indicate that independent grocery stores which handle fruits and vegetables do not sell them so readily in the low-income areas where competition with fruit and vegetable stands and pushcart or wagon hucksters, is keen, as in the higher-income areas, where these hucksters are relatively few in number.

Among the fruit and vegetable stands, the volume of apples handled in the next-to-the-lowest income group was greater than in the highest income group (table 13), and the same was true of pears, peaches, and grapes (table 14). Sales of oranges, bananas, and grapefruit, however, were greatest in the highest income group.

Only a small number of pushcart or wagon hucksters plied their trade in the higher-income areas, but sales per outlet were 21 percent greater in the next-to-the-lowest income group than in the lowest (tables 13 and 14).

#### Income and Sales of Canned Fruits and Juices

Canned fruits and juices are probably to a large extent direct competitors of fresh fruits. Grocery stores, delicatessens, and meat markets were the principal handlers of such products.

Analysis of sales by 479 independent grocery stores in New York City indicates that family income probably played an important role in the sale of canned fruits and canned juices. For the 5 leading canned juices, sales in the lowest-income areas averaged 131 cases <sup>4/</sup> per store per year, as compared with 482 cases in the highest-income areas, a difference of 268 percent (table 15). For the 7 leading canned fruits, sales in the lowest-income areas averaged 82 cases per store per year, in contrast with 275 cases in the highest-income areas, a difference of 235 percent.

#### Nationality and Fresh Fruit Sales

Nearly half of the retailers reported that their trade consisted of mixed nationalities, where no single nationality was predominant. Exactly one-fourth of the stores, however, reported Jewish trade as predominant; 15 percent Italian trade; and 5 percent German trade. No other one nationality accounted for more than 3 percent.

Although stores catering predominantly to Jewish trade made up only 25 percent of the retail outlets, they reported sales of 37 percent of all apples, and 35 percent of the other 6 leading fruits <sup>5/</sup>. Italian customers predominated in 15 percent of the stores, but bought only 7 percent of the apples, and about the same proportion

<sup>4/</sup> Cases containing 24 No. 2 cans.

<sup>5/</sup> The other 6 leading fruits were bananas, grapes, grapefruit, oranges, peaches, and pears.

Table 13. - Family Income and Annual Sales of Eastern and Western Apples, Per Retail Outlet, as Reported by Retail Outlets of Three Types, New York City, 1937-38

Income class based on rentals 1/	Outlets reporting	Average quantity sold per outlet			Total for 7 fruits 2/	
		Apples				
		Eastern	Western	Total		
<u>Number</u>		<u>1,000 pounds</u>				

479 independent retail grocers:

\$20 - \$34	136	4.2	3.6	7.8	31.5
\$35 - \$49	137	7.5	5.2	12.7	52.2
\$50 - \$64	82	10.2	5.6	15.8	68.4
\$65 - or more	124	11.9	8.2	20.1	106.8

1,121 independent stands:

\$20 - \$34	202	19.4	15.1	34.5	118.7
\$35 - \$49	314	43.9	15.3	59.2	212.4
\$50 - \$64	315	35.0	16.6	51.6	200.9
\$65 - or more	290	33.4	18.8	52.2	229.1

154 pushcarts or wagon peddlers:

\$20 - \$34	101	41.7	11.2	52.9	113.5
\$35 - \$49	50	41.2	16.5	57.7	137.3
\$50 - \$64	2	1.9	35.2	37.1	250.1
\$65 - or more	1	-	13.7	13.7	96.4

1/ Income class based on average rental of census tract in which store is located, as shown by U. S. Census of 1930.

2/ Includes apples, as well as fruits listed.

Source: Data obtained from independent retailers.

Table 14. - Family Income and Annual Sales of 6 Selected Fruits, Per Retail Outlet, as Reported by Retail Outlets of Three Types, New York City, 1937-38

Income class based on rentals 1/	Average quantity sold per outlet					
	Oranges	Grape- fruit	Bananas	Pears	Peaches	Grapes
	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds
<u>479 independent retail grocers:</u>						
\$20 - \$34	8.7	3.3	5.6	2.5	1.8	1.8
\$35 - \$49	15.6	7.1	7.6	3.1	3.5	2.6
\$50 - \$64	22.2	10.0	8.9	4.2	4.8	2.5
\$65 - or more	40.3	21.1	9.9	5.6	5.9	3.9
<u>1,121 independent stands:</u>						
\$20 - \$34	34.5	12.9	14.2	9.5	7.4	5.7
\$35 - \$49	51.2	28.0	14.8	21.8	14.8	12.6
\$50 - \$64	60.2	29.0	22.6	14.6	11.7	11.2
\$65 - or more	74.0	40.8	24.6	13.7	12.9	10.9
<u>154 pushcart or wagon peddlers:</u>						
\$20 - \$34	17.5	7.0	3.3	14.0	12.8	6.0
\$35 - \$49	31.3	12.4	2.2	16.4	10.0	7.3
\$50 - \$64	43.6	60.2	-	51.4	40.8	12.0
\$65 - or more	8.6	3.5	66.0	1.2	2.5	.9

1/ Income class based on average rental of census tract in which store is located, as shown by U. S. Census of 1930.

Source: Data obtained from independent retailers.

Table 15. - Effect of Income Area on Sales of Canned Fruit and Fruit Juices  
Per Retail Outlet, 479 Independent Retail Grocery Stores, New York City,  
1937-38

Commodity	Quantity sold per store per year in each income area 1/			
	\$20 - \$34	\$35 - \$49	\$50 - \$64	\$65 or more
	Cases	Cases	Cases	Cases
<u>Canned juice:</u>				
Tomato	42	61	85	161
Pineapple	42	61	96	134
Grapefruit	33	49	82	134
Orange	8	13	21	25
Prune	6	11	17	29
Total	131	195	301	482

Canned fruit:

Peaches	26	31	48	68
Grapefruit	13	14	26	31
Pears	14	17	25	46
Apricots	5	7	16	29
Cherries	2	3	5	19
Applesauce 2/	20	30	41	73
Cranberries	2	2	3	9
Total	82	104	164	275
Grand total	213	299	465	757

Index numbers of cases sold per store per  
year in each income area 1/

Commodity	\$20 - \$34	\$35 - \$49	\$50 - \$64	\$65 or more
<u>Canned juice:</u>				
Tomato	100	145	202	383
Pineapple	100	145	229	317
Grapefruit	100	148	248	406
Orange	100	162	262	312
Prune	100	183	233	483
Total	100	149	230	368

Canned fruit:

Peaches	100	119	185	262
Grapefruit	100	108	200	238
Pears	100	121	179	329
Apricots	100	140	320	580
Cherries	100	150	250	950
Applesauce 2/	100	150	205	365
Cranberries	100	100	150	450
Total	100	127	200	335
Grand total	100	140	218	355

1/ Income class based on average rental of census tract in which store is located, as shown by U. S. Census of 1930.

2/ Including whole apples.

Source: Data obtained from independent retailers.

of the other 6 fruits. Germans predominated in 5 percent of the outlets, but bought only 4 percent of the apples, and  $3\frac{1}{2}$  percent of the other 6 fruits.

#### Nationality and Sales of Canned Fruits and Juices

National habits with regard to fresh fruits seem to have differed considerably from national habits in buying canned fruits and juices. Whereas stores catering largely to Jewish customers sold 35 percent of the 6 leading fresh fruits and 37 percent of the apples, they handled only 4 percent of the canned fruit, and 5 percent of the canned juices. Stores dealing mostly with Italians sold 7 percent of the fresh fruit, but only 2 percent of the canned fruit, and 3 percent of the canned juices.

"American" families seem to have been the largest users of canned fruits (30 percent), and of canned juices (35 percent); followed by Irish with 16 percent of the canned fruit, and 19 percent of the canned juices. Of the European nationalities, Scandinavians were the largest users of canned fruits (with 12 percent); and Germans led in the use of canned juices (with 10 percent).

These data would seem to indicate that canned fruits and juices are important, competitively, insofar as Americans, Irish, Scandinavians and Germans are concerned, but are of relatively small significance as competing with fresh fruits among other nationalities.

#### Gross Margins $\frac{6}{1}$ of Fresh Apple Sales

The theory has gained wide acceptance, particularly among growers and shippers, that a major deterrent to increased sales of apples is the wide margin or so-called "profit" between cost and selling price taken by retailers. This is thought to make the price to consumers too high. The corollary of such a theory is that a general reduction in the gross margin would materially increase sales of apples. Since price is an important factor in the purchase of any commodity, this seems to be a plausible theory.

The economic interests of apple growers in gross retail margins would seem to require (1) that such margins be remunerative enough to encourage retailers to handle their apples and make them available to consumers, and (2) that such margins be small enough to permit of prices which will move the necessary volume in competition with other items. The margins that will meet these two conditions differ among retailers. Some of the factors that may determine how

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$\frac{6}{1}$  Gross margin - the difference between the price paid for the commodity and the retail selling price; for example, if a bushel of apples were bought for \$1.00 and sold for \$1.35, the gross margin was 35 cents or 35 percent.

wide margins must be to encourage retailers to handle apples are ease of selling, spoilage rate, value per sales unit, credit and delivery, and margin per sales unit as compared with margins on other items.

#### Variations in Gross Margins

An analysis of what these retailers have actually been doing may indicate to what extent they have considered it practicable to handle apples on low margins.

The margins taken on apples by these retailers varied widely among types of outlets, as well as among stores of the same type. More than half (56 percent) of the total number reported margins of less than 30 percent (table 16). Margins taken by pushcart or wagon hucksters averaged much lower than the others; that is, 92 percent took margins of less than 30 percent, and 61 percent averaged less than 20 percent. Similarly, 52 percent of the fruit and vegetable stores reported gross margins of less than 30 percent, and 25 percent margins higher than 40 percent.

Comparisons of gross margins and sales of apples per retail outlet show that both the independent grocers and the fruit and vegetable stores reporting the smallest margins (less than 15 percent) averaged about half the apple volume per outlet reported by those taking a 25 to 29 percent margin. The greatest volume of sales among fruit and vegetable stands was reported by the group taking margins of 40 to 49 percent, while among the retail grocers those taking a margin of 35 to 39 percent reported the greatest sales volumes per outlet.

A similar comparison of operations by pushcart or wagon hucksters showed slightly larger sales per outlet by those taking from 20 to 29 percent margin than by those taking less than 15 percent. On the other hand, those that reported margins of 30 percent or more sold only two-fifths as many apples as those reporting margins of less than 15 percent (table 17).

#### Gross Margins and Apple Sales in Various Income Areas

It seems to be commonly assumed that low margins are characteristic-ally charged in low-income areas, and high margins in areas which can better afford them. The data revealed by a study of different types of retailers partially substantiates this theory. The range in gross margins on eastern apples taken by independent retail grocers, for example, was approximately the same in all income areas, whether high or low, but the proportion of stores which took margins of less than 25 percent gross was about 45 percent in the lowest-income areas, and only about 12 percent in the highest-income areas (table 18).

Table 16. — Variations in Gross Retail Margins on Apples, by Type of Retail Outlet, as Reported by Independent Retailers, New York City, 1937-38

Range in average gross margin (percent) <sup>1/</sup>	Total outlets reporting	Number	Proportion of retail outlets reporting						Percent
			Fruit and Independent vegetable stands	grocery stores	or wagon mucksters	Pushcart stores	Meat markets	Percent	
Less than 15	109	3	5	41	7	—	—	7	7
15 - 19	147	8	8	20	—	11	—	9	9
20 - 24	255	16	14	20	14	22	—	16	16
25 - 29	389	25	27	11	36	11	—	24	24
30 - 34	156	11	9	3	14	—	10	10	10
35 - 39	183	12	13	1	22	—	12	12	12
40 - 49	119	9	7	1	7	—	7	7	7
50 - 74	212	14	15	3	—	22	—	13	13
75 - 99	13	1	1	—	—	—	—	1	1
100 - or more	10	1	1	—	—	—	—	—	—

<sup>1/</sup> Gross margin - difference between price paid for commodity and the retail selling price; for example, if a bushel of apples were bought for \$1.00 and sold for \$1.35, the gross margin was 35 cents or 35 percent.

Source: Data obtained from independent retailers.

Table 17. - Relation of Gross Margins to Sales of Apples Per Retail Outlet, as Reported by Various Types of Independent Retailers, New York City, 1937-38

Range in gross margin (percent) <u>1/</u>	Annual sales of apples per retail outlet by each type of store		
	Fruit and vegetable stores	Independent retail grocers	Pushcart or wagon hucksters
	<u>1,000 pounds</u>	<u>1,000 pounds</u>	<u>1,000 pounds</u>
Less than 15	27.3	6.5	61.9
15 - 19	41.3	11.9	48.3
20 - 24	49.2	10.8	73.7
25 - 29	59.7	14.6	73.1
30 - 34	49.9	14.0	<u>2/</u> 24.7
35 - 39	41.3	19.0	-
40 - 49	65.9	17.0	-
50 - or more	47.0	17.0	-

Index numbers of sales by margin groups

Less than 15	100	100	100
15 - 19	151	183	78
20 - 24	180	166	119
25 - 29	219	225	118
30 - 34	183	215	<u>2/</u> 40
35 - 39	151	292	-
40 - 49	241	262	-
50 - or more	172	262	-

1/ Gross margin - difference between price paid for commodity and the retail selling price; for example, if a bushel of apples were bought for \$1.00 and sold for \$1.35, the gross margin was 35 cents or 35 percent.

2/ Includes gross margins for 30 percent or more.

Source: Data obtained from independent retailers.

Table 18. - Proportion of Stores Charging Various Gross Retail Margins, and Volume of Eastern Apples Sold Per Outlet in Various Income Groups, as Reported by Independent Retail Grocers, New York City, 1937-38

Range in gross margin (percent)	Proportion of stores in area rental		Quantity of apples sold per store	Index (low-margin group = 100)
	Percent	1,000 pounds		
<u>Average rental for area; \$20-\$34:</u>				
Less than 15	8	3.2		100
15 - 19	16	3.0		94
20 - 24	21	4.1		128
25 - 29	36	6.1		191
30 - 34	7	6.1		191
35 - 39	6	11.3		353
40 - 49	1	4.9		153
50 - or more	5	3.7		116
<u>Average rental for area; \$35-\$49:</u>				
Less than 15	7	2.9		100
15 - 19	10	14.3		493
20 - 24	14	5.3		183
25 - 29	25	7.3		252
30 - 34	10	9.1		314
35 - 39	7	4.3		148
40 - 49	9	8.5		293
50 - or more	18	8.5		293
<u>Average rental for area; \$50-\$64:</u>				
Less than 15	-	-		-
15 - 19	6	7.0		100
20 - 24	10	8.1		116
25 - 29	18	9.8		140
30 - 34	9	7.2		103
35 - 39	18	8.6		123
40 - 49	7	18.3		261
50 - or more	32	14.0		200
<u>Average rental for area; \$65 or more:</u>				
Less than 15	3	4.6		100
15 - 19	1	5.6		122
20 - 24	8	13.1		285
25 - 29	24	13.3		289
30 - 34	10	7.3		159
35 - 39	24	14.4		313
40 - 49	12	10.7		233
50 - or more	18	10.7		233

1/ Income class based on average rental of census tract in which store is located, as shown by U. S. Census of 1930.

Source: Data obtained from independent retailers.

### Unit of Sale

In conversations with growers, they frequently suggest that the way to sell more apples is to put them up in peck,  $\frac{1}{2}$ -bushel or bushel packages which will be purchased at retail stores by consumers. Such a program fails to take into consideration consumer practices in buying. In large urban centers, scarcity of storage space in city apartments or flats, together with the desire for a frequently varied diet, seems thus far to have made impracticable the adoption on any appreciable scale of consumer packages of fruit containing a peck or more.

It is not improbable that some consumers, particularly those with relatively high incomes, may be willing to pay for the additional cost of small cartons or other packages. It should be emphasized, however, that the number of such consumers is probably small.

The most common unit of sale varied among fruits, among retail outlets, and among income groups. Each of the fruits were reported as sold by the piece - some almost entirely - while others were sold almost exclusively by weight. Sales in monetary units were reported for each fruit and were important with western apples, oranges, bananas, and western pears. Generally those fruits that were packed under uniform sizes were sold largely by count or monetary unit, and those that were packed jumble sizes were sold largely by weight. Bananas were an exception, and were sold largely by count and by monetary units.

Practically all the leading fruits were purchased by consumers in extremely small quantities. In 1,790 independent retail outlets in New York City, sales of 38 percent of the eastern apples were in quantities of 3-pound lots, 33 percent in 2-pound lots, and 12 percent in 1-pound lots, making a total of 83 percent in lots of 3 pounds or less. Sales of an additional 7 percent were in 4-pound lots, and 3 percent in 5-pound lots. Sales of western apples were mostly by number or by the pound. That is, sales of 35 percent were in 3-pound lots or less, and 31 percent in units of 4 apples or less. Similar variations were observed among sales of all the leading fruits (table 19). The variations in size and type of retail sales units seriously restrict the field for consumer-size packages.

The unit (pound, number, or monetary) did not vary noticeably among income areas, except that the trade in the lowest income groups (\$20-\$34 rentals) showed a definite preference for numbers rather than monetary units.

Table 19. - Range in Usual Units of Sale Reported for Selected Fruits by 1,790 Independent Retailers, New York City, 1937-38

Unit of sale reported.	Percentage of total sales in each unit							
	Apples		Grape- fruit			Pears		
	Eastern	Western	Oranges	fruit	Bananas	Eastern	Western	Peaches
<u>By weight:</u>								
1 pound	12	5	-	2/	2/	11	4	16
2 pounds	33	21	-	2/	1	31	14	56
3 pounds	38	9	2/	2/	2/	41	3	19
4 pounds	7	2	2/	-	2/	6	1	2
5 pounds	3	2/	-	-	-	1	2/	1
6 pounds	1	2/	-	-	-	1	2/	2/
8 pounds	2/	-	-	-	-	2/	-	2/
10 pounds	2/	-	-	-	-	2/	-	2/
<u>By number:</u>								
1 each	1	4	2	27	1	2/	3	1
2 each	1	7	6	42	3	1	9	1
3 each	1	10	9	21	10	2	10	2/
4 each	2/	10	10	3	7	1	14	2/
5 each	2/	6	7	1	14	1	9	2/
6 each	2/	9	21	1	19	1	9	2/
7 each	-	2/	1	-	3	-	2/	-
8 each	-	1	2	-	2	2/	1	-
10 each	-	1	6	-	2	2/	1	2/
1 dozen	2/	1	12	2/	2	-	1	2/
2 dozen	-	2/	2/	-	-	-	-	-
3 dozen	-	-	-	-	2/	-	2/	-
4 dozen	-	2/	2/	-	2/	-	2/	-
5 dozen	-	2/	2/	-	-	-	-	-
<u>By monetary unit:</u>								
5 cents	1	1	2	2/	7	2/	2	2/
10 cents	1	5	12	1	26	2/	16	1
15 cents	2/	1	1	2/	1	2/	1	2/
20 cents	-	2/	2/	-	2/	-	2/	2/
25 cents	1	6	8	3	2/	1	3	2
30 cents	-	2/	-	-	-	-	-	-
50 cents	-	-	2/	-	-	-	2/	-

1/ Seven retailers reported selling peaches occasionally in quarts.

2/ Less than 1 percent.

Source: Data obtained from independent retailers.

### Spoilage Related to Fruit Sales

Spoilage seems an unavoidable phase of the fruit and vegetable business. Consequently, the retailing of such produce is more exacting and hazardous than the retailing of staples. It seems logical, therefore, to assume that the relative extent of spoilage or waste which the retailer normally incurs in handling a given fruit, may affect his merchandising of such fruit, as well as his profits. Anticipated spoilage may determine whether or not a retailer stocks a fruit at all, how he selects the fruit, and how he prices it. Once having purchased the fruit, the retailer is likely to put greater sales effort behind the more perishable fruits.

Care in growing, harvesting, packaging, packing, and handling, up to the time the retailer takes delivery, is essential to minimize spoilage. Retailers cannot improve the condition of the fruit after they get it. They can merely try to keep their own spoilage from being excessive as compared with other retailers by exercising care in selecting and handling the fruit, combined with a rapid turn-over.

The data on spoilage were too limited to show how much resulted from causes that the retailers could overcome. The analysis showed differences in reported spoilage under varying conditions, such as type of retail outlet, sales volume or turn-over, income area, and gross margin - all of which are probably interrelated.

Analysis of the available data seems to indicate that summer apples have a relatively high percentage of spoilage in the average retail outlet, being exceeded only by peaches, and equalled only by western grapes (table 20). These retailers reported an average spoilage of from 11 to 12 percent on summer apples, and 8 percent on winter apples. From a competitive point of view, this may be compared with 13 percent on peaches, 11 percent on western grapes, 9 percent on grapefruit, 8 percent on pears, 7 percent on oranges, and 6 percent on eastern grapes. Except for delicatessen stores, pushcart or wagon hucksters reported the smallest proportion of spoilage.

### Spoilage Related to Volume Handled

In the case of each of the 6 important fruits studied, there seems to be an irregular inverse relationship between the quantity of each fruit handled annually per retail outlet and the spoilage per unit of purchase. For example, when less than 50 bushels of eastern summer apples were sold annually, the average spoilage was almost 13 percent. When more than 500 bushels were handled annually, spoilage declined to about 6 percent (table 21). On eastern winter apples, spoilage declined from 8.1 to 5.8 pounds per hundred when the quantity handled rose from less than 50 bushels to 2,500 or more. On western summer apples, spoilage declined from 10.9 to 6.4 pounds per hundred as

Table 20. — Relative Loss from Spoilage Per Unit Purchased on Selected Fruits, as Reported by Various Types of Independent Retailers, New York City, 1937-38

Kind of fruit	Unit of purchase	Percentage of spoilage per unit of purchase					
		All types of retail outlets		Fruit and vegetable stands		Independent grocery stores	
		Independent stands	Pushcart	or wagon	Hucksters	Delicatessens	Meat markets
<b>Apples:</b>							
Eastern:	Summer	Bushel	12	13	12	10	14
	Winter	Bushel	8	8	7	6	10
Western:	Summer	Box	11	12	11	9	11
	Winter	Box	8	8	6	7	10
Oranges		Box	7	7	6	5	9
Grapefruit		Box	9	9	8	6	9
<b>Pears:</b>							
Eastern		Bushel	8	8	7	8	9
Western		Box	8	9	6	6	10
<b>Peaches</b>							
		Bushel	13	13	12	10	13
<b>Grapes:</b>							
Eastern		Basket	6	6	8	6	11
Western		Lug	11	11	9	11	14

Source: Data obtained from independent retailers.

Table 21. - Relation of Physical Volume of Eastern and Western Apples (Summer and Winter) Sold Per Retail Outlet to Loss or Spoilage Per Unit of Purchase, as Reported by Independent Retailers, New York City, 1937-38

Range in number of units sold annually	Loss or spoilage reported		Index numbers of spoilage or loss	Number of retail outlets
	Per unit of purchase	Per 100 pounds purchased		
	<u>Pounds</u>	<u>Pounds</u>		
<u>Eastern Apples, Summer (bushels):</u>				
1 - 49	6.2	12.9	100	863
50 - 99	4.6	9.6	74	208
100 - 149	4.8	10.0	78	92
150 - 249	4.0	8.3	64	73
250 - 499	3.7	7.7	60	59
500 - 999	3.0	6.2	48	15
<u>Eastern Apples, Winter (bushels):</u>				
1 - 49	3.9	8.1	100	127
50 - 99	3.8	7.9	98	226
100 - 149	3.5	7.3	90	186
150 - 249	3.8	7.9	98	311
250 - 499	3.7	7.7	95	320
500 - 999	3.5	7.3	90	249
1,000 - 2,499	3.3	6.9	85	160
2,500 - or more	2.8	5.8	72	57
<u>Western Apples, Summer (boxes):</u>				
1 - 49	4.8	10.9	100	686
50 - 99	4.9	11.1	102	79
100 - 149	4.5	10.2	94	27
150 - 249	2.8	6.4	59	16
250 - 499	2.8	6.4	59	9
<u>Western Apples, Winter (boxes):</u>				
1 - 49	4.0	9.1	100	246
50 - 99	3.9	8.9	98	370
100 - 149	3.3	7.5	82	203
150 - 249	3.3	7.5	82	321
250 - 499	3.3	7.5	82	273
500 - 999	0.3	0.7	8	146
1,000 - 2,499	2.2	5.0	55	52
2,500 - or more	1.9	4.3	47	21

Source: Data obtained from independent retailers.

volume rose; and on western winter apples, comparable figures were 9.1 to 4.3 pounds. The turn-over of 6 other important fruits seems to have had similar relationships to spoilage 7/.

Spoilage of summer apples seems to have been more definitely related to turn-over than that of winter apples, but insofar as comparison could be made, the observable differences between eastern and western summer apples were insignificant. Outlets handling the larger volumes of eastern and western winter apples reported the least spoilage, but the effect of increased volume seems to have been more marked with regard to western winter apples than eastern.

#### Spoilage Related to Gross Margin and Income

In the grocery stores and fruit and vegetable stands, spoilage of apples was generally greater where gross margins were less than 20 percent, than where gross margins were 35 percent or more (table 22). In these same types of stores, spoilage on apples seems to have been generally higher per unit of purchase in the areas of lowest income than in the areas forming the highest income group (table 23). The information available is not sufficient to indicate how significant these data may be.

#### Periods When Various Fruits Were Sold

Retailers cannot ordinarily sell a fruit to consumers unless they have such a fruit in stock. Certain fruits are at a distinct disadvantage because they have relatively short seasons. The housewife can hardly be expected to know when the season for a certain fruit begins each year, and a fruit may be on the market several weeks before many consumers are aware of the fact, unless retailers in their neighborhood are handling that particular fruit.

A corollary of the above is that the longer the season a given fruit has, the more likely it is to become a permanent part of the family diet and to establish a regular demand. It follows, therefore, that annual sales of some fruits may be low because they are not available throughout the year, or because their season is too short to interest many retailers in pushing them to any appreciable extent.

There seems to have been little difference among various types of retail outlets in the average number of weeks during which selected fruits were offered for sale. There was, however, wide variation in the number of weeks each fruit was kept in stock by different stores in each type of retail outlet. In the case of fruit and vegetable stands, 96 percent had oranges, 84 percent bananas, and 71 percent had grapefruit on sale every week of the year. On the other hand, only 13 percent had western apples, and less than half had eastern

7/ Lack of space does not permit inclusion of tables illustrating the data.

Table 22. — Relation of Average Gross Margin on Fruit to Average Spoilage or Loss on Apples as Reported by Independent Grocers, and Fruit and Vegetable Stands, New York City, 1937-38

Range in average gross margin (percent)	Average spoilage or loss per usual unit of purchase 1/					
	Grocery stores		Fruit and vegetable stands			
	Eastern apples		Western apples		Western apples	
Summer	Winter	Summer	Winter	Summer	Winter	Summer
Pounds per bushel	Pounds per box	Pounds per bushel	Pounds per box	Pounds per bushel	Pounds per box	Pounds per box
Less than 15						
15 - 19	9.6	4.0	5.3	4.8	10.6	4.6
20 - 24	7.7	4.0	4.6	3.8	7.0	4.3
25 - 29	5.7	3.5	5.6	4.1	6.6	5.7
30 - 34	5.9	3.1	4.7	3.5	6.0	4.9
35 - 39	4.6	3.2	4.3	3.5	5.8	5.0
40 - 49	5.4	3.7	4.7	3.5	5.2	3.4
50 - or more	5.1	4.4	4.0	3.2	5.9	3.9
	4.6	3.2	4.3	3.4	6.0	4.0
				3.8	4.0	4.6
					3.8	3.5

Index numbers of spoilage per unit of purchase

Range in average gross margin (percent)	Index numbers of spoilage per unit of purchase					
	Grocery stores		Fruit and vegetable stands			
	Eastern apples		Western apples		Western apples	
Summer	Winter	Summer	Winter	Summer	Winter	Summer
Pounds per bushel	Pounds per box	Pounds per bushel	Pounds per box	Pounds per bushel	Pounds per box	Pounds per box
Less than 15	100	100	100	100	100	100
15 - 19	80	100	87	79	66	93
20 - 24	59	88	106	85	62	83
25 - 29	61	78	89	73	57	53
30 - 34	48	80	81	73	55	54
35 - 39	56	93	89	69	49	53
40 - 49	55	85	75	67	56	55
50 - or more	48	80	81	71	57	43
				83	49	49
					83	83

1/ Weights or numbers per unit of purchase were as follows: Eastern apples, 48 pounds per bushel  
Western apples, 44 pounds per box.

Source: Data obtained from independent retailers.

Table 23. - Relation of Average Spoilage or Loss on Apples to Income Area in Which Sold, as Reported by Independent Grocers, and Fruit and Vegetable Stands, New York City, 1937-38

Income class based on average rentals <sup>2/</sup>	Actual spoilage per unit of purchase <sup>1/</sup>					
	Grocery stores			Fruit and vegetable stands		
	Eastern apples		Western apples	Eastern apples		Western apples
	Summer	Winter	Summer	Summer	Winter	Summer
Pounds per bushel	Pounds per box	Pounds per bushel	Pounds per box	Pounds per bushel	Pounds per box	Pounds per box
\$20 - \$34	7.2	4.1	5.2	4.5	7.4	3.8
\$35 - \$49	5.6	3.1	5.0	3.7	6.2	3.6
\$50 - \$64	5.4	3.6	4.2	3.3	6.2	4.9
\$65 - or more	5.0	3.1	4.5	3.2	5.4	4.1

Index numbers of spoilage per unit of purchase

Income class based on average rentals <sup>2/</sup>	Grocery stores					
	Eastern apples			Fruit and vegetable stands		
	Summer		Winter	Eastern apples		Western apples
	Summer	Winter	Summer	Summer	Winter	Summer
\$20 - \$34	100	100	100	100	100	100
\$35 - \$49	78	76	96	82	84	95
\$50 - \$64	75	83	81	73	84	108
\$65 - or more	69	76	87	71	73	103

<sup>1/</sup> Weights or numbers per unit of purchase were as follows: Eastern apples, 43 pounds per bushel; Western apples, 44 pounds per box.

<sup>2/</sup> Income class based on average rental of census tract in which store is located, as shown by U. S. Census of 1930.

Source: Data obtained from independent retailers.

apples on sale every week in the year (table 24). Most of the fruit and vegetable stands stocked peaches and eastern pears from 10 to 19 weeks; western grapes from 20 to 30 weeks. More than half of the fruit and vegetable stands did not carry eastern grapes at all.

Western apples were carried throughout the year by only 11 percent of the grocery stores in comparison with 28 percent for eastern apples.

Neither eastern nor western apples were handled throughout the year by more than 5 percent of the pushcart or wagon hucksters. Oranges were handled throughout the year by 47 percent, and grapefruit by 14 percent.

How much the consumption of apples can be increased by extending the period during which the leading retail outlets keep them in stock can be determined only by actual experiment. The question of varieties enters into the situation, because certain varieties do not keep well and may actually decrease consumption because they are mushy, mealy, or tasteless, if sold when overripe or past the normal season.

It is obvious, however, that it is easier to form the habit of buying a given fruit if it is constantly available, as oranges seem to have been, rather than on hand irregularly as were both eastern and western apples. It seems likely that favorable results might accrue from efforts on the part of growers' cooperative associations and others to induce a larger number of retailers to stock apples for more weeks in the year.

#### Number of Items Handled and Fruit Sales

Growers often fail to understand why retailers seem to be unfamiliar with the virtues of their particular fruit and unwilling to concentrate on selling it. This lack of understanding is due partially to failure to appreciate the small-unit, wide-variety buying habits of consumers in general, and the consequent need on the part of the retailer for stocking a large number of commodities to satisfy consumer trade.

At least 41 kinds of fruits were received in carload lots at New York City during 1938, so that apples might reasonably be expected to compete with 40 other fruits. But apples are, in the final analysis, just one more food. Actual competition may be far greater than would seem at first thought. The number of items which retailers carry in stock depends on many factors, chief of which are probably the type of store and the average income of the families living in the vicinity of the retail outlet. For the 1,790 independent retailers included in this survey, pushcart or wagon hucksters reported the smallest average number of commodities handled annually, and delicatessens the largest number, 11 and 793 respectively. Independent grocery stores ranked next with 546; followed by meat markets with 124, and fruit and vegetable stands with 56 (table 25).

Table 24. - Range in Periods During Which Fruits Were Offered For Sale, as Reported by Managers of Independent Retail Outlets, New York City, 1937-38

Number of weeks fruit was offered for sale	Proportion of independent retail outlets selling fruit during indicated periods									
	Apples		Grapefruit		Pears		Grapes		Fruit	
	Eastern	Western	Oranges	Bananas	Eastern	Western	Peaches	Eastern	Western	Percent
<u>1,121 fruit and vegetable stands:</u>										
Less than 5	-	1/2	1/2	1/2	1/2	1/2	2	1/2	1/2	1
5 - 9	1/2	1/2	1/2	1/2	1/2	1/2	11	2	11	3
10 - 19	1/2	1/2	1/2	1/2	1/2	1/2	12	24	24	29
20 - 29	2	6	4	1	5	21	2	1/2	1/2	42
30 - 39	18	35	11	1	3	30	-	-	-	20
40 - 51	51	41	10	1	1	25	-	-	-	1/2
52	44	13	71	1	7	-	-	-	-	1
None	3	3	12	3	3	23	2	58	4	4
<u>479 retail grocers:</u>										
Less than 5	-	1/2	1/2	1/2	1/2	1/2	2	1	1	1
5 - 9	1/2	1/2	1/2	1/2	1/2	1/2	12	5	11	7
10 - 19	1/2	2	1	1	1	1	19	72	11	24
20 - 29	5	11	4	1	4	24	3	1	1	33
30 - 39	26	42	24	3	2	25	1	-	-	14
40 - 51	31	31	13	4	2	11	-	-	-	1
52	28	11	46	82	4	4	-	-	-	-
None	8	3	10	8	52	11	5	68	52	52
<u>154 pushcart and wagon hucksters:</u>										
Less than 5	-	1	1	1	1	1	2	2	6	2
5 - 9	1	1	1	1	2	-	7	4	12	6
10 - 19	5	12	5	1	6	1	23	63	2	29
20 - 29	4	23	7	1	12	1	14	5	-	19
30 - 39	15	27	7	1	12	1	14	-	-	3
40 - 51	55	3	5	1	5	2	8	-	-	1
52	5	47	14	7	1	6	1	1	1	1
None	15	30	48	88	50	29	13	90	39	39

Source: Data obtained from independent retailers.

1/ Less than 1 percent.

Table 25. - Relation of Type of Store and Income Group to Number of Items Handled Per Retail Outlet, 1,790 Independent Retail Outlets, New York City, 1937-38

Type of retail outlet	Number of items handled per retail outlet in each income area 1/				Average all areas
	\$20 - \$34	\$35 - \$49	\$50 - \$64	\$65 or more	
Fruit and vegetable stands	41	53	54	70	56
Independent grocery stores	394	471	506	822	546
Pushcarts or wagon hucksters	11	11	10	20	11
Delicatessens	644	200	500	1,122	793
Meat markets	55	340	78	63	124

1/ Income class based on average rental of census tract in which store is located, as shown by U. S. Census of 1930.

Source: Data obtained from independent retailers.

#### Number of Items Handled and Income

It is an axiom in the food trade that the human stomach is comparatively limited in its capacity insofar as actual poundage is concerned, but the only limit on the variety of food is the capacity of one's purse. This axiom would seem to be confirmed when a comparison is made of the number of items per retail outlet in each of the four broad income groups. In the lowest income areas, fruit and vegetable stores handled an average of 41 items annually as compared with 70 in the highest income group. Comparable figures for grocery stores were 394 items in the lowest-income areas, and 822 in the highest; for delicatessens, the range was from 644 to 1,122; for meat markets from 55 to 340; and for pushcart or wagon hucksters from 11 to 20.

#### Number of Items and Sales of Specific Fruits

The recent growth of "super" stores demonstrates the conviction on the part of merchandisers that mass display is conducive to increased sales, and that consumers favor a wide selection and like to purchase all foods under one roof. That there is some basis for these theories may be seen in the fact that sales of eastern apples in grocery stores handling 1,500 or more items were 154 percent larger than in stores handling less than 250 items (table 26). Similarly, sales of western apples rose 143 percent; of oranges 284 percent; of grapefruit 559 percent; and of 7 leading fruits combined, 238 percent.

In the fruit and vegetable stands, two practices seem to have been followed; either to specialize on a small number of items, or to

Table 26. — Relation of Number of Items Handled Per Retail Outlet to Volume of Selected Fruits Sold Per Year, as Reported by Independent Retail Outlets, New York City, 1937-38

Number of items Number handled per retail outlet	Number of outlets	Quantity sold annually per grocery store										Total 7 fruits pounds		
		Apples			Grape- fruit			Bananas			Pears			
		1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds			
<u>370 retail grocers:</u>														
Less than 250	108	5.7	4.2	12.2	5.1	6.3	5	2.1	2.7	.2	1.5	40.4		
250 - 499	90	8.3	5.3	17.4	7.6	8.3	7	3.1	3.8	.6	1.8	55.9		
500 - 749	74	10.7	6.2	28.9	12.6	8.8	6	3.8	11.3	.4	2.0	78.3		
750 - 999	31	7.2	6.2	29.8	13.1	7.6	4	3.4	4.8	.6	1.7	74.8		
1,000 - 1,499	46	12.0	7.8	30.9	17.4	11.5	8	4.9	5.8	1.5	3.2	95.8		
1,500 - or more	21	14.5	10.2	46.8	33.6	12.5	1.0	5.9	7.4	1.4	3.4	136.7		
<u>976 fruit and vegetable stands:</u>														
Less than 20	48	87.7	18.6	92.5	35.3	11.9	7.8	28.5	27.2	2.4	12.7	324.6		
20 - 29	222	23.9	8.3	37.0	9.6	2.1	9.7	7.0	1.7	5.4	122.3			
30 - 39	124	26.5	10.9	43.3	21.4	15.5	1.9	10.0	9.9	2.3	147.0			
40 - 49	155	33.7	14.9	53.0	28.3	22.5	2.5	14.0	12.2	3.8	196.8			
50 - 59	182	32.6	19.4	68.1	37.5	24.1	2.5	12.4	12.0	3.0	219.0			
70 - 99	96	38.2	18.5	82.4	40.7	23.6	2.2	17.9	14.3	3.6	251.5			
100 - or more	119	33.5	23.1	67.0	35.9	24.4	2.7	11.5	14.1	5.7	9.0	226.9		
<u>142 pushcart or wagon hucksters:</u>														
Less than 10	30	69.6	18.9	21.6	11.7	5.9	11.2	10.3	10.7	6.0	5.2	171.1		
10 - 19	95	38.5	12.5	25.1	10.1	1.1	4.7	10.6	14.8	.6	5.0	123.0		
20 - or more	17	20.0	12.6	19.1	7.2	8.0	3.1	8.3	7.1	.4	4.8	90.6		

Source: Data obtained from independent retailers.

handle a relatively large number. The greatest average tonnage of 7 selected fruits per retail fruit and vegetable stand (162 tons per year) was sold by 48 such stands which handled less than 20 items each. A comparatively large number of stands (222) handled between 20 and 29 items, and sold about 61 tons of 7 fruits annually, as compared with about 113 tons sold by stands handling 100 or more items.

Pushcart or wagon hucksters tended to concentrate on a relatively small number of items, largely because of the limited size of the pushcart, wagon, or motortruck. This seems to have been a good practice as regards the 7 leading fruits, since those pushcart or wagon hucksters that handled less than 10 items actually sold the greatest tonnage of the 7 leading fruits (about 86 tons per year), while those handling 20 items or more sold about 45 tons.

These data, together with casual observation of retailing practice, would seem to indicate, first, that apple growers and shippers should not expect retailers of their own volition to be fully informed, enthusiastic salesmen for their products. It would be a physical impossibility for a grocer's clerk to be able to recite the merits of 1,500 or more items in stock in the store. Second, it is a matter of common observation that retailers push those items on which they are afforded sales' helps and which they consider reasonably profitable. If retailers and their clerks are to become enthusiastic and well informed apple salesmen, it seems likely that some interested group must prepare attractive sales programs and helps and display material and induce retailers to use them. Jobbers and wholesalers, each with wide lines of produce to merchandise, cannot logically be expected to concentrate sales' efforts on a single product. If the job is to be done, it will probably have to be conceived and carried out by groups of growers, cooperatively or otherwise, and directed primarily at the consumers' main source of supplies, that is, the retailer.

#### Sources of Supply for Apples

Almost all of the independent retailers reported that they purchased all of their apples from jobbers. About 6 percent reported that they purchased eastern apples at farmers' markets, and 1 percent bought them from peddlers who came to their retail stores. Only about 2 percent of the retailers reported buying eastern apples at auction. The fruit and vegetable store operators made almost all of the non-jobber purchases. Their larger volume apparently encouraged and enabled them to buy from the same sources as small jobbers.

Purchases from jobbers averaged 30 percent of the eastern apples and 36 percent of the western apples. Purchases of western apples at auction averaged 14 percent of the western apple tonnage (table 27).

Table 27. - Source of Supply of Eastern and Western Apples, as Reported by Independent Retailers, 1/ New York City, 1937-38

Source of supply	Proportion purchased from each source by					
	Fruit and vegetable stands	Independent grocers	All or wagon hucksters	Delicatessens	Meat markets	All stores handled
	Percent	Percent	Percent	Percent	Percent	Percent
<u>Eastern apples:</u>						
Wholesaler or jobber	89.8	96.2	90.7	100.0	95.5	90.5
Farmer at market	7.0	2.5	.4	-	4.5	5.7
Fruit auction	1.9	-	1.2	-	-	58,429
Farmer at farm	1.0	-	5.4	-	-	16,552
Wagon peddler or huckster	2/	.9	2.3	-	-	15,390
Farmer at store	.3	.4	-	-	-	3,838
Total	100.0	100.0	100.0	100.0	100.0	100.0

Source of supply	Proportion purchased from each source by					
	Fruit and vegetable stands	Independent grocers	All or wagon hucksters	Delicatessens	Meat markets	All stores handled
	Percent	Percent	Percent	Percent	Percent	Percent
<u>Western apples:</u>						
Wholesaler or jobber	82.7	98.8	93.6	98.5	100.0	85.6
Fruit auction	17.2	.6	3.7	-	-	456,620
Wagon peddler or huckster	2/	.6	2.7	1.5	-	74,467
Trucker	.1	-	-	-	-	1,690
Total	100.0	100.0	100.0	100.0	100.0	100.0

1/ Of the 1,790 independent retailers, 91 did not handle eastern apples, and 98 did not handle western apples.

2/ Less than one-tenth of 1 percent.

Source: Data obtained from independent retailers.

### Varieties Handled

Only 5 eastern apple varieties were named as having been handled by 20 percent or more of the retailers. The frequency with which each variety was named is not an index of the volume handled. It is an index of how well the variety names are known and of their relative market standing. Many of the varieties were probably handled one or more times during the season by many retailers who did not name them. Over 40 varieties of eastern apples were named by one or more retailers, but the 5 most popular varieties were McIntosh, Greening, Baldwin, York, and Northern Spy (table 28).

Only 3 out of 8 western apple varieties were reported as having been handled by 20 percent or more of the retailers. The Delicious variety was named by 91 percent, Winesap by 41 percent, and Pippin by 21 percent of the retailers (table 29). An additional 6 percent, which represents the Newtown variety, may be counted with the Pippin, since these 2 variety names are often used interchangeably. A total of 15 eastern varieties were named in connection with the western variety questions. This and other features of the answers indicate that many retailers are confused on apple varieties. As among eastern varieties, the less popular western varieties were probably handled by more retailers than named them.

### Grades of Apples Handled

Of the independent retailers, all but 5 percent handled eastern apples during the 1937-38 season, and these were asked to indicate the grades they handled. The grade terms used indicate that very few of them think in terms of official grades. The official grade term "U. S. No. 1" was used by 23 percent of the retailers and the term "unclassified" by 1 percent of the retailers. They used terms such as might be expected to appeal to housewives. The grade descriptions "Best," "First quality," "First grade," "Extra fancy," and "Grade A" were used by 38 percent of the retailers. Together they used 30 grade designations. Some of them may use unofficial terms because they think their choice of terms gives a more precise meaning than do the official names (table 30).

The official western apple grade names "Extra fancy" and "Fancy" were used to describe western apples by a limited number of retailers. "Extra fancy" was used by 18 percent, and "Fancy" by 10 percent of the retailers. Judging from this, the retailers as a group paid little attention to grades marked on the packages. They used 26 names for western apple grades (table 31).

### Brands Handled

The retailers' answers to questions regarding brands handled indicated even less familiarity with brands than with grades. Not

Table 28. - Varieties of Eastern Apples Reported Sold by 1,699  
Independent Retailers, New York City, 1937-38 1/

Variety	Retailers reporting sale of variety	
	Number	Percentage of total
McIntosh	1,425	84
Greening	1,124	66
Baldwin	718	42
York	381	22
Northern Spy	336	20
Delicious	143	8
Rome Beauty	120	7
Wealthy	115	7
Cortland	104	6
Wolf River	93	5
Duchess	58	3
Winesap	42	2
Pippin	32	2
Jonathan	25	1
Williams Red	22	1
Spitzenburg	18	1
Ben Davis	17	1
Golden Delicious	15	1
Gravenstein	14	1
Stark	14	1
"Cooking"	13	1
Coddling	9	1
King	9	1
Others 2/		

1/ Ninety-one (or 5 percent) of the 1,790 retailers, included in this survey, did not handle eastern apples.

2/ Twenty other varieties were reported as sold, but no one of them was mentioned by 1 percent of the retailers.

Source: Data obtained from independent retailers.

Table 29. - Varieties of Western Apples Reported Sold by 1,692  
Independent Retailers, New York City, 1937-38 1/

Variety	Retailers reporting sale of variety	
	Number	Percentage of total
Delicious	1,546	91
Winesap	694	41
Pippin	356	21
Rome Beauty	277	16
Spitzenburg	219	13
Jonathan	189	11
Newtown	96	6
Golden Delicious	85	5
Gravenstein	74	4
McIntosh	46	3
York	17	1
Northern Spy	16	1
Winter Banana	15	1
Baldwin	14	1
Northwestern Greening	11	1
Others 2/		

1/ Ninety-eight (or 5 percent) of the 1,790 retailers, included in this survey, did not handle western apples.

2/ Nine other varieties were reported as sold, but no one of them was mentioned by 1 percent of the retailers.

Source: Data were obtained from independent retailers.

Table 30. - Grades of Eastern Apples Sold, as Reported by 1,699  
Independent Retailers, New York City, 1937-38 1/

Grade reported sold	Retailers reporting sale of grade	
	Number	Percentage of total
"No. 1"	302	18
"Best"	249	15
"First quality or first grade"	197	12
"No. 2"	119	7
"Extra fancy"	102	6
"Grade A"	83	5
"U. S. No. 1"	79	5
"Seconds"	75	4
"Ungraded"	70	4
"Fancy"	67	4
"Named varieties"	39	2
"Top grade"	31	2
"Unclassified"	22	1
"Cheaper or lower grades"	22	1
"Good"	20	1
"Medium"	15	1
Others 2/		

1/ Ninety-one (or 5 percent) of the 1,790 retailers surveyed did not handle eastern apples.

2/ Fifteen other grades were mentioned, but no one of them was reported by 1 percent of the retailers.

Source: Data obtained from independent retailers.

Table 31. - Grades of Western Apples Sold, as Reported by 1,692  
Independent Retailers, New York City, 1937-38 1/

Grade reported sold	Retailers reporting sale of grade	
	Number	Percentage of total
"Extra fancy"	306	18
"Best"	243	14
"First quality or first grade"	184	11
"Fancy"	174	10
"No. 1"	168	10
"Grade A"	73	4
"Second grade"	55	3
"Named varieties"	41	2
"U. S. No. 1"	27	2
"No. 2"	27	2
"Top grade"	26	2
"Medium"	24	1
"Good grade"	22	1
"Ungraded"	17	1
"Cheaper or lower grade"	14	1
"B"	10	1

Others 2/

1/ Ninety-eight (or 5 percent) of the 1,790 retailers surveyed did not handle western apples.

2/ Eleven other grades were mentioned, but no one of them was reported by 1 percent of the retailers.

Source: Data obtained from independent retailers.

more than 13 percent named any one brand. Some seemed to remember the illustration on the label, but could not remember the brand name. An example of this is "Indian Head" which was named by some retailers. They may have had in mind the "Wenoka" brand, which has a large Indian head as an illustration. It is apparent that apple brand names have not impressed retailers to any appreciable extent.

#### ANALYSIS OF SALES OF CHAIN RETAIL GROCERIES

##### Supply and Pricing Practices

Generally speaking, the manager of each store unit, often with the advice of his supervisor, decides which fruit items will be ordered. The order is usually made up on an order form and from a price list furnished by the chain fruit and vegetable department each day. The fruit and vegetable department at headquarters does not specify fruit items to be carried by a particular store manager. It does,

however, with the assistance of store supervisors, act in the capacity of a wholesaler-jobber. Its task is to convince the individual store manager of the desirability of handling certain lines of produce. While store managers have a choice of items to be carried, they are usually required to obtain all items through headquarters; and, with rare exceptions, the choice which may be exercised by a store manager, is limited to the items on the list prepared at headquarters. Retail prices are also established by the chain's fruit and vegetable department, but such prices may be lowered when, in the judgment of the store supervisor and the store manager, such action is necessary to avoid or reduce loss.

#### Sales Promotional Activities

The devices used by the chain systems to influence volume sold included special sales; promotional letters to store managers; notations on price and order forms; display-plan instructions; and newspaper advertisements. Analysis of special sales and promotional letters used by two chain systems during the 1937-38 season showed that they gave considerably more attention to some commodities than to others. This may have been due partly to differences in the length of time each fruit was available in volume. Both systems included one or more varieties of apples on the promotion lists more frequently than any other single commodity. Florida oranges and grapefruit were listed almost as often as apples. One organization emphasized grapefruit more often than oranges and the other one oranges more often than grapefruit. They both stressed Florida oranges to a considerably greater extent than those from California. Peaches, cantaloupes, and honeydew melons were accorded equal attention during the height of their respective seasons. Chain No. 1 promoted eastern McIntosh apples more frequently than any other one variety; whereas chain No. 2 gave about equal attention to western Delicious, eastern McIntosh, western "table," and eastern Rome varieties. Chain No. 1 pushed one or more kinds of fruit 50 weeks during the season compared with 51 weeks for chain No. 2.

Newspaper advertisements, run by one chain system, included one or more fresh fruits 29 weeks during the season. One or more kinds of apples were included in  $1\frac{1}{4}$  of these advertisements; Florida oranges in 12; grapefruit in 8; cantaloupes in 6; honeydew melons, watermelons, and peaches in 5; and bananas in 4.

#### Apple Volume Handled

Data obtained from 5 chains indicate that they disposed of 345,501 bushels of all kinds of fresh apples during the 1937-38 season, of which about 75 percent were eastern apples and 25 percent western. Eastern apples were sold in considerably greater volume than western apples by all the chain systems.

The relative importance of western apples varied greatly among the chain systems. They made up almost 37 percent of the apples sold by one chain system in contrast with about 20 percent by another, and about 12 percent by a third chain.

With the exception of "green" varieties, the relative volume of varieties sold varied considerably among chain systems. For example, about 31 percent of the apples handled by chain "A" consisted of the McIntosh variety, while chain "E" had only 10 percent. Over 13 percent of the apple tonnage handled by chain "C" was of the western Delicious variety, but less than 6 percent of the volume sold by chain "B" consisted of this variety (table 32).

Four out of five chain systems sold more apples during the 3 months of October, November, and December than during any other 3-month period. The other chain had largest apple sales during January, February, and March.

#### Retail Fruit Prices

Ten fruits (oranges, bananas, apples, grapes, grapefruit, peaches, pears, cantaloupes, honeydew melons, and strawberries) made up 83 percent of the fruit unloaded at New York City during 1938, as reported by the Market News Service, U. S. Department of Agriculture 8/. Chain store prices of these commodities, when averaged by months for the 1937-38 season, showed that western apples were sold at appreciably higher prices per pound than standard packs of Florida oranges and grapefruit, bananas, and eastern apples (with the exception of 112-size McIntosh) (table 33). During each month except February, the 112-size McIntosh sold, on the average, for a price slightly lower than the 100-size western Red Delicious. The maximum difference at any time was 1-1/3 cents per pound. California and extra fancy Florida oranges sold at a lower price per pound than western apples beginning with the month of December. Except during October and November, the western Red Delicious, size 100, sold for slightly less per pound than did sizes 88 and 125.

Of the eastern apples that were sold in volume by these chain systems, the York and Rome varieties were the least expensive to the consumer, and sold for about one-half the price of the western Red Delicious variety. Greenings retailed at about two-thirds and loose McIntosh and eastern Delicious at about three-fourths the price of western Red Delicious.

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8/ Biddle, E. R., Unloads of Fruits and Vegetables at New York City, Annual Report, Calendar year 1938, New York City, February 1939.

Table 32. - Relative Proportion Each Variety Was of Total Apple Tonnage Sold by 5 Chain Grocery Systems, New York City, 1937-38

Producing sections and variety or group of varieties	Percentage each variety or group of varieties is of the total apple tonnage				
	Chain A	Chain B	Chain C	Chain D	Chain E
	Percent	Percent	Percent	Percent	Percent
<u>Eastern:</u>					
Delicious	.4	13.6	.9	.9	1.1
McIntosh	30.8	13.0	16.1	24.7	10.2
Other Red	11.1	34.3	21.4	27.4	27.1
Green	26.3	27.5	25.1	27.2	28.9
Total	68.6	88.4	63.5	80.2	67.3
<u>Western:</u>					
Delicious	10.0	5.6	18.6	11.1	14.6
Golden Delicious	-	.3	-	.2	1.8
Gravenstein	-	.4	-	.2	.4
Newtown	-	.3	.6	.1	4.2
Rome	12.5	3.0	1.6	1.0	4.9
Spitz	-	-	-	.2	.9
Winesap	-	2.0	-	7.0	5.9
Miscellaneous 1/	8.9	-	15.7	-	-
Total	31.4	11.6	36.5	19.8	32.7

1/ This group contains an unidentifiable proportion of varieties listed above.

Source: Data obtained from chain retailers.

#### Apples Sold in Fresh Versus Processed Form

Apples were retailed at these grocery stores in both fresh and processed forms, as well as in combination with other products such as in preserves. Data concerning apples used in combination products were not obtained. Sales of apples in both fresh and processed forms by four chain store systems during the 1937-38 season, totaled over 17 million pounds, or almost 9,000 pounds per store (table 34). Fresh apples made up 76.4 percent of the total and applesauce almost 23 percent. Sliced or quartered apples, baked apples, and apple juice, combined, made up less than 1 percent of the total apple tonnage.

Apple consumption, whether fresh or processed, seems to be influenced markedly by the season. At any rate, shipments of processed apples to stores by three chain systems, operating 1,777 stores, were small when shipments of fresh apples were likewise small in volume (table 35). The processed apples (largely applesauce) moved in heaviest volume at the same time as fresh apples. This was particularly true during

Table 33. - Comparison of Average Retail Prices per Pound for Selected Fruits in Chain Grocery Stores, New York City, 1937-38

(Cents per pound)

Commodity	1937						1938					
	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
<b>Apples:</b>												
Eastern Delicious - loose	-	-	4.9	4.4	4.8	5.0	5.0	4.8	4.8	4.8	5.7	-
Eastern McIntosh - 112	-	-	-	4.6	7.1	6.4	6.6	6.4	-	-	-	5.5
Eastern McIntosh - loose	-	-	-	-	5.0	5.6	5.3	4.8	5.2	5.3	5.5	4.7
Eastern Rome - loose	-	-	-	-	-	-	-	2.7	3.3	3.3	-	-
Eastern York - loose	-	-	-	-	2.5	3.8	4.2	3.2	3.3	-	-	-
Eastern Greening - loose	-	5.9	4.7	4.0	4.0	4.5	4.8	4.4	4.4	5.0	5.0	5.0
Western Red Delicious - 88	-	-	9.8	7.7	7.0	7.6	7.1	6.8	7.3	7.5	7.6	-
Western Red Delicious - 100	-	-	7.1	-	8.4	7.1	6.9	6.5	6.9	7.0	7.3	7.2
Western Red Delicious - 125	-	-	-	-	7.9	7.9	7.1	6.5	7.2	7.6	7.9	8.0
Western Golden Delicious - 88	-	-	-	-	11.3	10.0	9.9	9.8	8.0	10.0	10.0	-
Western Rome - 38	10.0	-	-	-	8.5	8.1	7.2	6.7	6.4	6.4	6.4	7.3
Western Winesap - 88	12.5	12.5	-	-	-	-	-	-	7.1	7.9	10.0	-
Western Winesap - 125	10.3	-	-	-	-	-	-	-	5.0	7.1	7.1	7.1
<b>Citrus:</b>												
California oranges - 126	12.6	11.2	11.6	11.6	11.6	13.3	7.0	6.6	6.4	6.5	6.5	7.2
California oranges - 176	11.9	12.6	12.4	12.6	13.2	7.0	6.3	6.5	6.5	6.8	6.8	7.0
California oranges - 216	11.6	12.9	12.9	12.9	13.5	7.0	5.4	6.0	7.3	6.5	6.9	5.9
Florida oranges Ex. Fcy. - 126	-	-	-	-	-	6.9	6.9	6.0	6.9	6.4	6.4	6.9
Florida oranges Ex. Fcy. - 176	-	-	-	-	-	7.2	7.0	4.0	3.8	4.4	4.4	7.0
Florida oranges Reg. - 150	-	8.3	-	-	7.1	6.5	5.6	5.1	4.9	5.6	5.6	6.9
Florida oranges Reg. - 216	-	-	-	-	7.5	6.6	5.1	5.0	4.9	5.0	5.0	10.5
Florida grapefruit Ex. Fcy. - 54	-	-	-	-	10.0	9.8	9.2	9.0	9.0	9.0	9.0	13.3
Florida grapefruit Reg. - 54	-	8.8	7.2	5.7	5.3	5.1	4.7	4.6	4.8	5.5	5.5	6.3
Florida grapefruit Reg. - 70	-	9.5	8.3	6.1	5.5	5.8	5.0	5.0	5.2	6.1	6.1	6.0
Bananas - Yellow	5.8	5.8	5.9	6.0	6.0	6.0	6.0	6.0	5.6	5.8	5.8	6.0
Berries - Strawberries	16.4	-	27.6	31.6	31.6	32.6	29.3	17.6	16.9	16.9	16.5	18.5
Grapes - Seedless	21.6	9.9	8.8	8.9	11.8	10.8	17.2	19.7	23.3	12.9	12.2	7.5
Melons - Cantaloupes	5.3	5.5	8.8	9.2	9.5	-	-	-	8.7	8.6	10.2	11.6
Melons - Honeydew	7.8	8.4	8.9	9.2	9.7	9.7	12.0	12.0	-	-	9.0	6.8
Peaches	10.4	6.3	5.4	4.9	-	-	-	-	-	-	11.0	6.3
Pears - Western - 135	8.8	8.1	8.4	9.9	9.0	8.8	8.8	8.8	9.4	10.0	10.0	6.3

Source: Data obtained from chain retailers.

Table 34. - Quantity of Apples Sold as Fresh and Processed Fruit, by Four New York City Chains Having 1929 Stores <sup>1/</sup>, 1937-38

Kind of product	Quantity sold 1,000 pounds	Percentage of total	
		Percent	Percent
Fresh apples	13,101.2	76.4	
<u>Processed apples:</u>			
Sauce	3,933.2	22.9	
Sliced or quartered	41.1	.2	
Baked	29.3	.2	
Juice	43.6	.3	
Total	17,148.4	100.0	

<sup>1/</sup> The figure of 1,929 stores was arrived at by averaging the total number of stores that were open each week.

Source: Data obtained from chain retailers.

Table 35. - Seasonal Variation in Volume of Fresh and Processed Apple Shipments to Stores by Three New York City Chains with 1,777 Stores, 1937-38

Months in quarter	Quantity shipped during the quarter		Proportion of tonnage that was	
	Fresh	Processed	Fresh	Processed
	1,000 pounds		Percent	
July, August, September	1,956.6	650.1	75	25
October, November, December	3,932.5	818.7	83	17
January, February, March	4,055.9	1,655.2	71	29
April, May, June	1,707.9	712.0	71	29
Total	11,652.9	3,836.0	75	25

Source: Data obtained from chain retailers.

the 3-month period of January, February, and March, 1938, when 35 percent of the season's shipments of fresh apples and 43 percent of the processed apples moved to these retail stores.

#### Volume of Canned Fruits and Juices Handled

It seems logical to assume that canned fruits and juices were used by consumers as substitutes for fresh fruits. It is also probable that a large part of the canned goods sold was in addition to, not merely substituted for, fresh fruits.

The volume of canned juices handled by these five chain grocery systems rose markedly in comparison with that of canned fruits from 1935 to 1938. Juices made up 43 percent of the total fruit and juice sales during the 1935-36 season, 50 percent during the 1936-37 season, and 52 percent during the 1937-38 season.

Tomato juice ranked first in volume in each of the three seasons, with pineapple juice second, and grapefruit juice third (table 36). These three juices made up 85 percent of the volume during 1935-36, 91 percent in 1936-37, and 89 percent in 1937-38.

Data were obtained concerning 12 kinds of canned fruit, of which 4 were outstandingly important. Canned peaches ranked first in volume in each of the three seasons (table 37). Pineapples were second in 1935-36, pears in 1936-37, and applesauce in 1937-38. These four fruits (applesauce, peaches, pears, and pineapple) together made up approximately three-fourths of the canned fruit sales volume.

Opinions vary on the value of a brand name, especially on the extent to which consumers take brands into account when buying. Brands serve many purposes, one of which may be that of helping to obtain a premium in price. It does not necessarily follow that a brand fails in its purpose unless it brings a premium at the retail store. A comparison of volumes of "private labels" and one nationally advertised brand sold by these chain systems during the three seasons shows that the appeal of the nationally advertised brand was not strong enough to hold chain store outlets.

Except for canned grapefruit and grape juice, goods with private (chain store) labels accounted for a much larger share of the volume of 7 canned fruits and 4 canned juices in 1937-38 than in 1935-36 (table 38). These same commodities, with the exception of grape juice, were also sold under a certain well known, nationally advertised brand name. The proportion of this brand was much smaller for each commodity in 1937-38 than in 1935-36. This decline in importance can be ascribed only partially to the shift of tonnage to private labels. An increased proportion of sales of other brands was also observed in all 7 canned fruits, particularly in grapefruit

Table 36. - Relative Volume of Various Juices Shipped to Their Stores by Five New York City Chain Grocery Systems, for Three Seasons, 1935-37

Kind of juice	Proportion of total tonnage		
	1935-36 Percent	1936-37 Percent	1937-38 Percent
Apple	-	.1	.2
<u>Citrus:</u>			
Grapefruit	18.6	18.5	20.0
Orange and grapefruit	1.6	.2	1.8
Orange	1.1	1.5	1.9
Grape	6.3	3.6	3.6
Pineapple	24.7	30.2	27.8
Prune	5.6	3.4	3.4
<u>Tomato:</u>			
Juice	36.4	38.5	38.0
Cocktail	5.7	4.0	3.3
Total	100.0	100.0	100.0

Source: Data obtained from chain retailers.

Table 37. - Relative Volume of Various Canned Fruits Shipped to Their Stores by Five New York City Chain Grocery Systems for Three Seasons, 1935-37

Kind of canned fruit	Proportion of total tonnage		
	1935-36 Percent	1936-37 Percent	1937-38 Percent
<u>Apples:</u>			
Baked	.3	.2	.2
Sauce	15.8	13.4	20.5
Sliced and quartered	.2	.2	.2
Apricots	4.5	4.7	5.6
Cherries	4.2	3.0	2.9
Cranberry sauce	3.3	4.8	4.9
Grapefruit	6.1	7.0	4.5
<u>Mixed:</u>			
Cocktail	3.5	5.8	5.1
Salad	2.0	2.1	1.8
Peaches	30.7	28.8	26.8
Pears	12.9	15.7	13.2
Pineapple	16.5	14.3	14.3
Total	100.0	100.0	100.0

Source: Data obtained from chain retailers.

Table 38. - Proportion of Specified Canned Fruits and Juices Sold by 5 New York City Chain Grocers, That Was Packed Under an Important Nationally Advertised Label and Under Private Labels, 1935-37

Commodity	Proportion of tonnage packed under -					
	A nationally advertised label		Private (chain store) labels			
	1935-36	1936-37	1937-38	1935-36	1936-37	1937-38
<u>Canned fruit:</u>						
Apricots	13.4	13.5	4.5	45.2	53.2	51.9
Cherries	15.6	23.0	4.2	57.8	47.0	68.6
Grapefruit	15.4	5.3	1	25.4	13.1	22.1
Mixed (Cocktail (Salad)	45.5	30.2	19.7	23.8	28.1	32.8
Peaches	46.4	33.0	25.1	7.3	28.4	25.0
Pears	55.7	45.1	35.6	21.7	37.3	42.0
Pineapple	51.1	26.9	31.5	22.3	38.7	35.4
	62.3	46.1	34.8	9.2	21.2	29.3
<u>Canned juice:</u>						
Grape	-	-	-	59.2	53.9	57.5
Grapefruit	9.6	3.3	.1	8.7	9.1	12.9
Pineapple	11.6	7.0	7.6	-	3.9	12.6
Tomato	12.4	5.9	1.3	12.8	27.0	40.7

Source: Data obtained from chain retailers.

and grape and grapefruit juice. In the case of pineapple and tomato juice, private labels gained approximately three times as much in volume as the well known national brand lost. These shifts may have been due to changes in chain store sales policies made possible by consumer indifference.

#### Analysis of Selected Stores

Since chain stores are located in various income areas of New York City, it is obvious that data for each system as a whole cannot be related easily to family income. Some details concerning the sales of 137 individual chain stores, therefore, have been obtained to permit analysis of variations among stores. It is felt that these stores present a fairly good picture of variations in chain units.

Dollar sales of all commodities (excluding meats) per store averaged approximately the same in the two lowest income areas (monthly rentals of \$50 or less) (table 39). Each of the higher rental groups (above \$50 per month) shewed considerably greater average sales than the preceding group. The lowest income group averaged \$930 per store per week, and the highest over \$2,000 per store per week. Sales of fruits and vegetables accounted for a considerable part of these differences. Sales of fruits and vegetables by stores in the highest income group were more than seven times as great as in the lowest income group but sales of other commodities averaged less than twice as much.

As might be expected, all stores within a given income area do not have similar fruit and vegetable dollar sales (table 40). Only 5 percent of the stores in the lowest income areas sold more than \$12,000 worth of fruits and vegetables during the year, and 78 percent sold less than \$2,000 worth. In the highest income areas, no store sold less than \$4,000 worth, and 78 percent had fruit and vegetable sales totaling \$12,000 or more for the year.

Indexes of actual tonnage of fresh fruit sold differed slightly from those for dollar sales of fruits and vegetables in the various income areas. The index of sales of fresh fruit tonnage was slightly larger than dollar sales of fruits and vegetables in each income group except the highest (tables 39 and 41). Index numbers for canned fruits and canned juices were markedly higher than the all commodity index in the third highest and second highest income groups, but only slightly higher in the highest income areas. Sales of canned fruits per store averaged only 132 percent more in the highest income group than in the lowest income group (table 41). On the other hand, canned juice tonnage averaged 199 percent more in the highest income areas, as compared with the lowest, and fresh fruits showed an increase of 543 percent (table 41).

Table 39. - Relation of Income to Average Weekly Sales of All Commodities and of Fresh Fruits and Vegetables, 137 Stores in Chain System, New York City, 1937-38

Income class based on rentals 1/	Number of stores	Average weekly sales per store and index of weekly sales			
		Fruits and vegetables	Actual Index	Other commodities	All commodities 2/
\$20 - \$34	13	\$ 55	100	\$ 875	100
\$35 - \$49	39	74	135	898	105
\$50 - \$64	28	126	229	1,084	972
\$65 - \$79	24	201	565	1,241	1,210
\$80 - or more	28	408	742	1,275	1,350
				146	1,476
				1,596	1,59
				182	2,004
					215

1/ Income class based on average rental of census tract in which store is located, as shown by U. S. Census of 1930.

2/ Includes all commodities, except meats.

Source: Data obtained from chain retailers.

Table 40. - Proportion of Stores in Each Income Class Related to Annual Fresh Fruit and Vegetable Sales, 137 Stores in Chain System, New York City, 1937-38

Range in annual fresh fruit and vegetable sales	Proportion of stores in each sales group by income class 1/			
	\$20 - \$34	\$35 - \$49	\$50 - \$64	\$65 - \$79
Percent	Percent	Percent	Percent	Percent
Less than \$2,000	78	11	4	-
\$ 2,000 - \$3,999	11	36	13	-
\$ 4,000 - \$11,999	6	46	42	22
\$12,000 - \$19,999	5	3	33	32
\$20,000 - or more	-	5	7	14
				46
				8

1/ Income class based on average rental of census tract in which store is located, as shown by U. S. Census of 1930.

Source: Data obtained from chain retailers.

Table 41. - Relation of Income to Comparative Quantities of 22 Fresh Fruits, 12 Canned Fruits and 8 Canned Juices Sold, 137 Stores in Chain System, New York City, 1937-38

Income class 1/	Index numbers of quantity sold per store		
	Fresh fruits 2/	Canned fruits 3/	Canned juices 4/
\$20 - \$34	100	100	100
\$35 - \$49	140	119	106
\$50 - \$64	234	159	159
\$65 - \$79	395	219	248
\$80 - or more	643	232	299

1/ Income class based on average rental of census tract in which store is located, as shown by U. S. Census of 1930.

2/ Includes apples, bananas, blackberries, cantaloupes, cherries, gooseberries, grapefruit, grapes, honeydew melons, huckleberries, lemons, nectarines, oranges, peaches, pears, pineapples, plums, prunes, raspberries, strawberries, tangerines, and watermelons.

3/ Includes canned applesauce, baked apples, whole apples, apricots, cherries, cranberry sauce, fruit salad, grapefruit, peaches, pears, pineapple, and prunes.

4/ Includes canned apricot, grape, grapefruit, orange, orange and grapefruit, pineapple, prune, and tomato juices.

When canned fruits and canned juices were compared as to number of cases, it was found that sales of canned fruits per store averaged more than canned juices in each group, except the highest, where almost 900 cases of each were sold annually per store (table 42).

Index numbers of the tonnage of apples sold per store were higher than index numbers of sales of 22 fresh fruits in each income group (tables 41 and 43). Compared with the lowest income group, the stores in each group averaged a greater volume of both eastern and western apples than in the preceding group (table 43). In the lowest income areas, eastern apples made up 79 percent and western apples 21 percent of total sales. In the highest income area, eastern apples made up 76 percent and western apples 24 percent. These data seem to indicate that eastern and western apples sold proportionately about as well in all income areas.

The proportion that important varieties and types of apples were of the total apple volume differed somewhat among income areas. These differences did not appear to be significant (table 44).

Table 42. - Relation of Income to Volume of Canned Fruits and Fruit Juices Sold Per Store, 137 Stores in Chain System, New York City, 1937-38

Income class based on rentals 1/	Quantity sold annually per store 2/			Proportion of total quantity sold annually	
	Canned fruit	Canned juices	Total	Canned fruit	Canned juices
	Cases	Cases	Cases	Percent	Percent
\$20 - \$34	386	300	686	56	44
\$35 - \$49	460	318	778	59	41
\$50 - \$64	614	476	1,090	56	44
\$65 - \$79	844	745	1,589	53	47
\$80 - or more	895	898	1,793	50	50

1/ Income class based on average rental of census tract in which store is located, as shown by U. S. Census of 1930.

2/ One case = 24 cans of 20 ounces each.

Source: Data obtained from chain retailers.

Apples ranked third in tonnage of selected fruits sold per store in all income areas, except the highest, where bananas were third, honeydew melons fourth, and apples fifth (table 45). Oranges ranked first with approximately one-third of the fruit tonnage in each income area. Grapefruit ranked second.

Variations in month to month sales 3/ of fruits and vegetables per store probably are the result of a number of factors. Some factors increase volume, while others tend to decrease it. Some factors affect a limited number of commodities, while others affect most of the items carried. The factors are influenced by changes in (1) consumer demand - seasonal and other reasons; (2) supply and price relationships of commodities; (3) selection of commodities offered for sale and sales emphasis; and (4) competition among retail outlets. Because of the complex nature of the factors, these data are merely represented as showing what happened in 137 New York City chain stores during the 1937-38 season.

Data on dollar sales of fruits and vegetables show that stores in the highest income areas had greater seasonal variations in sales volume than did the stores in low income areas. The stores in each income class averaged appreciably greater dollar volumes during the winter than during the summer months. Those in the three lowest income areas had dollar sales about one-third greater; in the second

3/ These data are based upon shipments to stores during the middle week of each month.

Table 43. - Relation of Income to Proportion of Eastern and Western Apples Sold Annually Per Store, 137 Stores in Chain System, New York City, 1937-38

Income class based on rentals 1/	Quantity of apples sold annually per store			Index numbers of apple tonnage per store			Proportion of total quantity sold		
	Eastern		Total	Eastern		Western	Eastern		Western
	Pounds	Pounds	Pounds	Index	Percent	Percent	Percent	Percent	Percent
\$20 - \$34	2,991	805	3,796	100	79	21			
\$35 - \$49	4,736	1,002	5,738	151	83	17			
\$50 - \$64	11,087	2,211	13,298	350	83	17			
\$65 - \$79	15,874	2,309	18,183	479	87	13			
\$80 - or more	19,406	6,185	25,591	674	76	24			
Average	10,754	2,511	13,265	-	81	19			

1/ Income class based on average rental of census tract in which store is located, as shown by U. S. Census of 1930.

Source: Data obtained from chain retailers.

Table 44. - Relation of Income to Proportion of Annual Volume of Selected Varieties or Types of Apples Sold by 137 Stores in Chain System, New York City, 1937-38

Income class based on rentals 1/	Proportion of total sales								
	Eastern apples			Western apples					
	Rome	Rome	Rome	eastern	eastern	eastern	Baldwin varieties	Delicious	Beauty Eating 2/
McIntosh	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
\$20 - \$34	44	11	9	6	3	6	10	6	4
\$35 - \$49	45	14	11	4	1	8	6	4	1
\$50 - \$64	42	18	10	6	5	2	8	5	1
\$65 - \$79	49	14	9	4	3	8	3	3	-
\$80 - or more	39	9	15	3	7	3	10	10	-

1/ Income class based on average rental of census tract in which store is located, as shown by U. S. Census of 1930.

2/ No specified variety.

Source: Data obtained from chain retailers.

Table 45. - Relation of Income to Proportion of Selected Fresh Fruits Sold, 137 Stores in Chain System,  
New York City, 1937-38

Income class based on rentals <sup>1/</sup>	Proportion of total tonnage sold									
	Apples	Oranges	Grape- fruit	Bananas	Pears	Peaches	Grapes	Honeydew melons	Canta- loupes	Other selected fruits <sup>2/</sup>
Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
\$20 - \$34	10.6	36.6	22.4	4.5	.5	2.2	4.0	1.5	.7	17.0
\$35 - \$49	11.4	36.3	21.5	4.8	.5	2.6	3.4	2.3	.8	16.3
\$50 - \$64	15.8	32.4	22.1	7.3	.5	3.2	2.8	2.1	1.2	12.5
\$65 - \$79	12.8	37.3	22.9	5.5	.5	2.9	2.1	3.1	.9	11.9
\$80 - or more	4.1	36.0	26.1	4.6	.9	3.2	1.7	4.3	1.4	10.6

<sup>1/</sup> Income class based on average rental of census tract in which store is located, as shown by U. S. Census of 1930.

<sup>2/</sup> Includes blackberries, cherries, gooseberries, huckleberries, lemons, nectarines, pineapples, plums, prunes, raspberries, strawberries, tangerines, and watermelons.

Source: Data obtained from chain retailers.

highest income area, 50 percent greater; and in the highest income areas, 68 percent greater during winter months than during summer months (table 46).

The tonnage of 22 fruits sold by the stores in the highest income group during the winter months averaged 75 percent greater than during the summer months. This compares with 68 percent greater dollar sales of all fruits and vegetables in the winter. On the contrary, similar percentages for the lowest income group were 22 percent more tonnage, and 33 percent more dollar sales. Except for the highest income group, index numbers were about the same for dollar sales and tonnage. The index numbers for tonnage were considerably smaller for the highest income group (table 46).

Per store averages for the 137 stores as a whole show that apples were sold in greatest volume during November (averaging approximately 11 bushels of eastern and 1 box of western apples per week) (table 47). September, October, and March were about equally good apple months for these stores, which averaged about 10 bushels or boxes per week. December and January sales averaged less than 5 bushels; May less than 2; August, 1; and July and June less than a half bushel per store.

Although apples sold in largest volume in November, they made up only 28 percent of the fruit tonnage, as compared with 34 percent in September, and 30 percent in October. Similar percentages for other months ranged from 1 to 17 percent.

Other fruits sold in largest volume during January and February, with more than 3,000 pounds per week. The August sales volume was lowest with only 907 pounds as compared with 3,603 pounds of fruit per week during January.

September, October, November, February, and March, were the most important apple months for these 137 stores. Almost 75 percent of their apple tonnage was sold during these months (table 48). Comparable percentages for 8 other important fruits sold during these 5 months are: oranges, 28; grapefruit, 68; bananas, 46; pears, 52; peaches, 20; grapes, 87; honeydew melons, 35; and cantaloupes, 9 percent.

The number of store managers who ordered apples varied greatly from month to month (table 49). These variations had an important effect on sales volume for the stores as a whole. Seven of the 9 important fruits were handled by one or more of the stores each week. Apples were handled by a larger number of stores than any other fruit during September and October; oranges during January, April, May, and June; grapefruit during November, December, February, and March; peaches during August; and honeydew melons during July.

Table 45. - Relation of Income to Average Monthly Fresh Fruit and Vegetable Sales Per Store During Various Seasons, 137 Stores in Chain System, New York City, 1937-38

Income class based on rentals 1/	Average monthly sales per store			Winter sales as a percentage of summer sales
	Summer 2/	Fall 3/	Winter 4/	
	Dollars	Dollars	Dollars	Percent
<u>All fruits and vegetables:</u>				
\$20 - \$34	206	197	275	33
\$35 - \$49	274	277	368	34
\$50 - \$64	464	500	603	31
\$65 - \$79	683	758	1,022	50
\$80 - or more	1,253	1,622	2,102	68
<u>Twenty-two fresh fruits 5/:</u>				
	Tons	Tons	Tons	
\$20 - \$34	1.4	1.1	1.7	22
\$35 - \$49	2.0	1.6	2.4	21
\$50 - \$64	3.0	3.1	4.0	31
\$65 - \$79	4.5	4.8	7.2	58
\$80 - or more	6.8	7.7	12.0	75

1/ Income class based on average rental of census tract in which store is located, as shown by U. S. Census of 1930.

2/ Includes June, July, and August.

3/ Includes September, October, and November.

4/ Includes December, January, February, March, April, and May.

5/ Includes apples, bananas, blackberries, cantaloupes, cherries, gooseberries, grapefruit, grapes, honeydew melons, huckleberries, lemons, nectarines, oranges, peaches, pears, pineapples, plums, prunes, raspberries, strawberries, tangerines, and watermelons.

Table 47. - Monthly Variations in Average Quantities of Apples and of 21 Other Fruits <sup>1/</sup> Sold Weekly Per Store, 157 New York City Chain Stores, 1937-38

Year and month	Quantity sold weekly per store			Total fruits <sup>1/</sup> Pounds	Total all fruits Pounds	Proportion apples were of all fruit sales Percent
	Apples		21 other			
	Eastern	Western	Total			
	Pounds	Pounds	Pounds			
<b>1937:</b>						
July	17	-	17	1,932	1,949	1
August	48	-	48	859	907	5
September	483	1	484	925	1,409	34
October	407	61	468	1,098	1,566	30
November	535	41	576	1,499	2,075	28
December	153	39	192	1,500	1,692	11
<b>1938:</b>						
January	151	49	200	3,403	3,603	6
February	284	50	334	3,079	3,413	10
March	205	223	428	2,025	2,453	17
April	147	75	222	2,026	2,248	10
May	47	25	72	1,536	1,608	4
June	7	15	22	2,047	2,069	1

<sup>1/</sup> Includes bananas, blackberries, cantaloupes, cherries, gooseberries, grapefruit, grapes, honeydew melons, huckleberries, lemons, nectarines, oranges, pears, pineapples, plums, prune, raspberries, strawberries, tangerines, and watermelons.

Source: Data obtained from chain retailers.

Table 48. - Proportion of Total Tonnage of Selected Fresh Fruits Sold Monthly, 137 Stores in Chain System, New York City, 1937-38

Month	Proportion of total tonnage sold									
	Apples		Oranges		Grape-fruit		Bananas		Pears	
	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
July	•5	1.6	•1	8.1	1.8	8.5	1.1	47.7	27.5	
August	1.6	1.3	•5	5.5	21.0	27.9	2.6	13.2	33.9	
September	15.8	1.6	•6	12.6	16.3	18.8	18.8	26.9	5.8	
October	15.3	1.2	7.2	7.8	12.1	•7	55.6	6.2	2.6	
November	18.5	6.4	10.7	9.5	11.2	•1	11.3	1.2	•2	
December	6.3	7.5	10.0	7.5	9.0	-	3.6	•4	-	
January	6.5	30.0	8.5	7.4	7.7	-	1.8	•1	-	
February	10.9	11.0	31.0	7.3	5.9	-	•8	1/	-	
March	14.0	7.3	18.3	8.4	6.4	-	•5	6	-	
April	7.2	12.7	10.1	8.9	4.6	-	3.0	1.4	•5	
May	2.4	10.7	6.5	8.6	2.8	2.1	•8	•4	8.4	
June	•7	8.7	•5	8.4	1.2	41.9	•1	1.9	21.1	

1/ Less than one-tenth of 1 percent.

Source: Data obtained from chain retailers.

Table 49. — Proportion of Stores Handling Selected Fruits Monthly, 137 Stores in Chain System, New York City, 1937-38

Month	Proportion of stores handling each fruit									
	Apples		Oranges		Grape-fruit		Bananas		Pears	
	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
July	27	67	9	74	5	39	15	85	58	58
August	45	62	39	76	42	83	29	42	66	66
September	98	48	32	96	35	64	70	48	12	12
October	96	37	89	70	30	9	82	26	9	9
November	89	86	96	76	20	1	74	9	1	1
December	72	83	95	69	23	—	31	3	—	—
January	74	100	79	65	15	—	18	1	—	—
February	96	93	100	61	13	—	12	1	—	—
March	93	88	97	61	14	—	7	5	—	—
April	77	92	91	87	14	—	35	13	3	3
May	44	96	55	71	9	17	10	5	31	31
June	25	99	21	63	4	87	3	18	30	30

Source: Data obtained from chain retailers.

It is difficult to determine the role which the appraisal of the individual store manager plays in determining the quantity and kind of fruit sold from week to week in each store. There can be little question that differences in sales per store are the result of such appraisals by the individual store manager concerning the possibilities for profitable disposal of fruit. His appraisal may be correct or incorrect but under any circumstances it determines upper limits to volume of sales for any given week. In the month of July only 27 percent of these 137 stores handled apples (table 49), and weekly sales of apples averaged only 17 pounds per store (table 47) for all stores. In September, 98 percent of the stores handled apples, and average weekly sales were 484 pounds per store. It is apparent that a large proportion of the store managers did not believe they could sell apples profitably during July, or else did not give consideration to handling apples.



